



SAFETY DATA SHEET

A08530

According to Regulation (EC) No 1907/2006, Annex II, as amended by Regulation (EU) No 453/2010

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name A08530

Product number A08530, FP-000833, FP-000837, FP-000841, FP-001721, FP-001852, FP-002594

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses Adhesive.

Uses advised against No specific uses advised against are identified.

1.3. Details of the supplier of the safety data sheet

Supplier APOLLO CHEMICALS LTD
SANDY WAY
AMINGTON INDUSTRIAL ESTATE
TAMWORTH
STAFFS
B77 4DS
T: +44 (0) 1827 54281
F: +44 (0) 1827 53030
E: compliance@apollo.co.uk

1.4. Emergency telephone number

Emergency telephone +44 01827 69662 (NOT 24HRS - 8am-5pm mon-fri)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards Not Classified

Health hazards Skin Irrit. 2 - H315 Eye Irrit. 2 - H319 Carc. 2 - H351 STOT SE 3 - H336

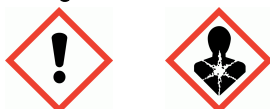
Environmental hazards Not Classified

Human health Product has a defatting effect on skin.

Physicochemical Vapours are heavier than air and may travel along the floor and accumulate in the bottom of containers.

2.2. Label elements

Pictogram



Signal word Warning

A08530

Hazard statements	H315 Causes skin irritation. H319 Causes serious eye irritation. H336 May cause drowsiness or dizziness. H351 Suspected of causing cancer.
Precautionary statements	P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P308+P313 IF exposed or concerned: Get medical advice/ attention. P501 Dispose of contents/ container in accordance with national regulations.
Contains	DICHLOROMETHANE

2.3. Other hazards**SECTION 3: Composition/information on ingredients****3.2. Mixtures**

DICHLOROMETHANE		60-100%
CAS number: 75-09-2	EC number: 200-838-9	REACH registration number: 01-2119480404-41-0007

Classification

Acute Tox. 4 - H302
Skin Irrit. 2 - H315
Eye Irrit. 2 - H319
Carc. 2 - H351
STOT SE 3 - H336

ZINC DIBENZYLDITHIOCARBAMATE**<1%**

CAS number: 14726-36-4 REACH registration number: 01-2119543708-31-0002
M factor (Acute) = 1 M factor (Chronic) = 1

Classification

Aquatic Acute 1 - H400
Aquatic Chronic 1 - H410

The full text for all hazard statements is displayed in Section 16.

SECTION 4: First aid measures**4.1. Description of first aid measures**

General information	Remove affected person from source of contamination.
Inhalation	Move affected person to fresh air at once.
Ingestion	DO NOT induce vomiting. Get medical attention immediately.
Skin contact	Remove contaminated clothing immediately and wash skin with soap and water.
Eye contact	Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Get medical attention if irritation persists after washing. Show this Safety Data Sheet to the medical personnel.

4.2. Most important symptoms and effects, both acute and delayed

A08530

General information	The severity of the symptoms described will vary dependent on the concentration and the length of exposure.
Inhalation	Vapours may cause drowsiness and dizziness. Irritation of nose, throat and airway.
Ingestion	May cause chemical burns in mouth and throat.
Skin contact	Prolonged skin contact may cause redness and irritation.
Eye contact	Severe irritation, burning and tearing.

4.3. Indication of any immediate medical attention and special treatment needed

Notes for the doctor No specific recommendations. If in doubt, get medical attention promptly.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media Extinguish with foam, carbon dioxide, dry powder or water fog.

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards The product is non-combustible. Toxic gases or vapours. No unusual fire or explosion hazards noted.

Hazardous combustion products Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours. Oxides of carbon. Oxides of nitrogen.

5.3. Advice for firefighters

Protective actions during firefighting Containers close to fire should be removed or cooled with water. Do not allow water to contact any leaked material.

Special protective equipment for firefighters Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Wear protective clothing as described in Section 8 of this safety data sheet.

6.2. Environmental precautions

Environmental precautions Do not discharge into drains or watercourses or onto the ground.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Eliminate all sources of ignition. No smoking, sparks, flames or other sources of ignition near spillage. Provide adequate ventilation. Absorb spillage with non-combustible, absorbent material.

6.4. Reference to other sections

Reference to other sections Wear protective clothing as described in Section 8 of this safety data sheet.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Eliminate all sources of ignition. Vapours may accumulate on the floor and in low-lying areas. Static electricity and formation of sparks must be prevented. Avoid inhalation of vapours and spray/mists.

A08530

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Keep away from heat, sparks and open flame. Store in closed original container at temperatures between 5°C and 25°C.

Storage class Chemical storage.

7.3. Specific end use(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

Occupational exposure limits

DICHLOROMETHANE

Long-term exposure limit (8-hour TWA): WEL 100 ppm 350 mg/m³

Short-term exposure limit (15-minute): WEL 300 ppm 1060 mg/m³

Sk

WEL = Workplace Exposure Limit

Sk = Can be absorbed through the skin.

Ingredient comments WEL = Workplace Exposure Limits

DICHLOROMETHANE (CAS: 75-09-2)

Ingredient comments	WEL = Workplace Exposure Limits
DNEL	Consumer - Dermal; Short term systemic effects: 353 mg/m ³ Workers - Dermal; Short term systemic effects: 706 mg/m ³
PNEC	- Fresh water; 0.54 mg/l - Sediment (Freshwater); 4.47 mg/kg - Intermittent release; 0.27 mg/l - Sediment (Marinewater); 1.61 mg/kg - Marine water; 0.194 mg/l - STP; 26 mg/l - Soil; 0.583 mg/kg

8.2. Exposure controls

Protective equipment



Appropriate engineering controls

Provide adequate ventilation. Avoid inhalation of vapours. Observe any occupational exposure limits for the product or ingredients.

Eye/face protection

The following protection should be worn: Chemical splash goggles or face shield.

Hand protection

It is recommended that gloves are made of the following material: Nitrile rubber. It should be noted that liquid may penetrate the gloves. Frequent changes are recommended. For exposure up to 8 hours, wear gloves made of the following material: Viton rubber (fluoro rubber).

Other skin and body protection

Wear suitable protective clothing as protection against splashing or contamination. Wear apron or protective clothing in case of contact.

Hygiene measures

Use engineering controls to reduce air contamination to permissible exposure level. Wash hands after handling.

A08530

Respiratory protection	If ventilation is inadequate, suitable respiratory protection must be worn. If ventilation is inadequate, suitable respiratory protection must be worn. Wear a respirator fitted with the following cartridge: Combination filter, type A2/P3.
Environmental exposure controls	Keep container tightly sealed when not in use.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance	Coloured liquid.
Colour	Various colours.
Odour	Characteristic.
Odour threshold	Not available.
pH	Not available.
Melting point	Not available.
Initial boiling point and range	Estimated value. 39-40°C @
Flash point	Technically not feasible.
Evaporation rate	Not available.
Evaporation factor	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	Not available.
Other flammability	Not available.
Vapour pressure	Not available.
Vapour density	Not available.
Relative density	1.17 @ 20°C
Bulk density	Not available.
Solubility(ies)	Insoluble in water.
Partition coefficient	Not available.
Auto-ignition temperature	Data lacking.
Decomposition Temperature	Not available.
Viscosity	Kinematic viscosity > 20.5 mm ² /s.
Explosive properties	Not available.
Explosive under the influence of a flame	Not considered to be explosive.
Oxidising properties	Not available.
Comments	Information given is applicable to the product as supplied.

9.2. Other information

Other information	No information required.
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A08530

Refractive index	Not available.
Particle size	Not available.
Molecular weight	Not available.
Volatility	Not available.
Saturation concentration	Not available.
Critical temperature	Not available.

SECTION 10: Stability and reactivity**10.1. Reactivity**

Reactivity There are no known reactivity hazards associated with this product.

10.2. Chemical stability

Stability Stable at normal ambient temperatures and when used as recommended.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions Not applicable. Not relevant.

10.4. Conditions to avoid

Conditions to avoid Avoid freezing.

10.5. Incompatible materials

Materials to avoid Flammable/combustible materials.

10.6. Hazardous decomposition products

Hazardous decomposition products Does not decompose when used and stored as recommended.

SECTION 11: Toxicological information**11.1. Information on toxicological effects****Acute toxicity - oral**

ATE oral (mg/kg) 3,333.33

Inhalation Harmful by inhalation.

Ingestion Harmful if swallowed.

Skin contact Harmful in contact with skin.

Eye contact Causes skin and eye irritation.

Toxicological information on ingredients.**DICHLOROMETHANE**

Toxicological effects The toxicity of this substance has been assessed during REACH registration.

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 2,000.0

Species Rat

A08530

ATE oral (mg/kg)	2,000.0
<u>Acute toxicity - dermal</u>	
Acute toxicity dermal (LD₅₀ mg/kg)	2,000.0
Species	Rat
<u>Acute toxicity - inhalation</u>	
Acute toxicity inhalation (LC₅₀ vapours mg/l)	86.0
Species	Rat
ATE inhalation (vapours mg/l)	86.0
<u>Skin corrosion/irritation</u>	
Skin corrosion/irritation	Irritating to skin., REACH dossier information.
<u>Serious eye damage/irritation</u>	
Serious eye damage/irritation	Causes eye irritation.
<u>Respiratory sensitisation</u>	
Respiratory sensitisation	Not sensitising.
<u>Germ cell mutagenicity</u>	
Genotoxicity - in vitro	Positive.
Genotoxicity - in vivo	Negative.
<u>Carcinogenicity</u>	
IARC carcinogenicity	IARC Group 2B Possibly carcinogenic to humans.
<u>Reproductive toxicity</u>	
Reproductive toxicity - fertility	No evidence of reproductive toxicity in animal studies.
Reproductive toxicity - development	No evidence of reproductive toxicity in animal studies.

ZINC DIBENZYLDITHIOCARBAMATE

<u>Acute toxicity - oral</u>	
Acute toxicity oral (LD₅₀ mg/kg)	16,000.0
Species	Rabbit
ATE oral (mg/kg)	16,000.0
Inhalation	Coughing, chest tightness, feeling of chest pressure.
Ingestion	Ingestion may cause severe irritation of the mouth, the oesophagus and the gastrointestinal tract.

A08530

Skin contact	Causes mild skin irritation.
Eye contact	Irritating and may cause redness and pain.

SECTION 12: Ecological Information**12.1. Toxicity****Ecological information on ingredients.****DICHLOROMETHANE**

Acute toxicity - fish	LC ₅₀ , 96 hours: 193 mg/l, Pimephales promelas (Fat-head Minnow) LC ₅₀ , 48 hours: 97 mg/l, Fundulus heteroclitus
Acute toxicity - aquatic invertebrates	EC ₅₀ , 48 hours: 27 mg/l, Daphnia magna LC ₅₀ , 48 hours: 109 mg/l, Palaemonetes pugio
Acute toxicity - aquatic plants	NOEC, 192 hours: 550 mg/l, Microcystis aeruginosa - Algae, blue, cyanobacteria
Acute toxicity - microorganisms	EC ₅₀ , 0.67 hours: 2590 mg/l, Bacteria
Chronic toxicity - fish early life stage	NOEC, 28 days: 83 mg/l, Pimephales promelas (Fat-head Minnow)

ZINC DIBENZYLDITHIOCARBAMATE**Acute aquatic toxicity**LE(C)₅₀ 0.1 < L(E)C₅₀ ≤ 1

M factor (Acute) 1

Acute toxicity - fish LC₅₀, 96 hours: 10 mg/l, Brachydanio rerio (Zebra Fish)**Chronic aquatic toxicity**

M factor (Chronic) 1

12.2. Persistence and degradability**12.3. Bioaccumulative potential**

Partition coefficient Not available.

Ecological information on ingredients.**DICHLOROMETHANE**

Bioaccumulative potential The product is not bioaccumulating.

Partition coefficient Not available.

12.4. Mobility in soil**Ecological information on ingredients.****DICHLOROMETHANE**

Mobility The product contains volatile organic compounds (VOCs) which will evaporate easily from all surfaces.

ZINC DIBENZYLDITHIOCARBAMATE

A08530

Mobility Insoluble in water.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment This product does not contain any substances classified as PBT or vPvB.

Ecological information on ingredients.**DICHLOROMETHANE**

Results of PBT and vPvB assessment This product does not contain any substances classified as PBT or vPvB.

ZINC DIBENZYLDITHIOCARBAMATE

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

12.6. Other adverse effects

Other adverse effects Not applicable.

Ecological information on ingredients.**DICHLOROMETHANE**

Other adverse effects Not applicable.

SECTION 13: Disposal considerations**13.1. Waste treatment methods**

General information Waste should be treated as controlled waste. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

Disposal methods Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority. Avoid the spillage or runoff entering drains, sewers or watercourses.

SECTION 14: Transport information**14.1. UN number**

UN No. (ADR/RID) 2810

UN No. (IMDG) 2810

UN No. (ICAO) 2810

UN No. (ADN) 2810

14.2. UN proper shipping name

Proper shipping name (ADR/RID) TOXIC LIQUID, ORGANIC, N.O.S.

Proper shipping name (IMDG) TOXIC LIQUID, ORGANIC, N.O.S.

Proper shipping name (ICAO) TOXIC LIQUID, ORGANIC, N.O.S.

Proper shipping name (ADN) TOXIC LIQUID, ORGANIC, N.O.S.

14.3. Transport hazard class(es)

ADR/RID class 6.1

A08530

ADR/RID classification code	T1
ADR/RID label	6.1
IMDG class	6.1
ICAO class/division	6.1
ADN class	6.1

Transport labels**14.4. Packing group**

ADR/RID packing group	III
IMDG packing group	III
ADN packing group	III
ICAO packing group	III

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant
No.

14.6. Special precautions for user

EmS	F-A, S-A
ADR transport category	2
Hazard Identification Number (ADR/RID)	60
Tunnel restriction code	(E)

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code**SECTION 15: Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

National regulations	The Control of Substances Hazardous to Health Regulations 2002 (SI 2002 No. 2677) (as amended).
Guidance	Approved Classification and Labelling Guide (Sixth edition) L131.

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

SECTION 16: Other information

Issued by	Compliance
Revision date	05/06/2019
Revision	21
Supersedes date	08/06/2016
SDS status	Approved.

A08530

Hazard statements in full	H302 Harmful if swallowed. H315 Causes skin irritation. H319 Causes serious eye irritation. H336 May cause drowsiness or dizziness. H351 Suspected of causing cancer. H400 Very toxic to aquatic life. H410 Very toxic to aquatic life with long lasting effects.
Store Between	Store Between 5'c - 25'c
Contains SVHC	NO

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.



SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

AkzoNobel

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1 Revision Date 20.11.2012 Print Date 03.01.2014

GB / EN

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Trade name : METHYLENE CHLORIDE (stabilizer: Amylene)

Substance name : dichloromethane (Stabilizer: Amylene)

REACH Registration Number : 01-2119480404-41-0000

1.2 Relevant identified uses of the substance or mixture and uses advised against

Use of the Substance/Mixture : Specific use(s): Industrial and professional use
Consumer use
Refer to attached exposure scenario Annex.

Recommended restrictions on use : Paint strippers

See Annex XVII to Regulation (EC) no 1907/2006 for Conditions of restriction

1.3 Details of the supplier of the safety data sheet

Company : Akzo Nobel Industrial Chemicals bv
Stationsstraat 77
NL 3811 MH Amersfoort
The Netherlands

Telephone : +31334676767

Telefax : +31334676110

E-mail address : industrialchemicals.sds@akzonobel.com

1.4 Emergency telephone number

Emergency telephone number : AkzoNobel Chemicals-Deventer-NL: +31 570 679211

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Skin irritation, 2, H315

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

Eye irritation, 2, H319
Carcinogenicity, 2, H351
Specific target organ toxicity - single exposure, 3, Respiratory system, H335
, Central nervous system, H336
Specific target organ toxicity - repeated exposure, 2, H373

For the full text of the H-Statements mentioned in this Section, see Section 16.

Classification (67/548/EEC, 1999/45/EC)

Carcinogenic Category 3, Xn, R40

For the full text of the R-phrases mentioned in this Section, see Section 16.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Symbol(s)



Signal word

: Warning

Hazard statements

: H315
H319
H335
H336
H351
H373

Causes skin irritation.
Causes serious eye irritation.
May cause respiratory irritation.
May cause drowsiness or dizziness.
Suspected of causing cancer.
May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

: **Prevention:**
P260

P264
P280

Response:
P308 + P313

Storage:
P403 + P233

Disposal:
P501

Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
Wash skin thoroughly after handling.
Wear protective gloves/ protective clothing/ eye protection/ face protection.

IF exposed or concerned: Get medical advice/ attention.

Store in a well-ventilated place. Keep container tightly closed.

Dispose of contents/ container to an approved waste disposal plant.

For the full list of P-statements please see section 16.

Hazardous components which must be listed on the label:

Dichloromethane

75-09-2

2.3 Other hazards

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

No further data available.

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Formula : CH₂Cl₂

Hazardous substance

Chemical Name	PBT vPvB OEL	CAS-No. EC-No. REACH No.	Classification (REGULATION (EC) No 1272/2008)	Classification (67/548/EEC)	Concentration [%]
Dichloromethane		75-09-2 200-838-9 01- 2119480404- 41	Skin Irrit. 2; H315 Eye Irrit. 2; H319 Carc. 2; H351 STOT SE 3; H335, H336 STOT RE 2; H373	Xi; R36/37/38 Carc.Cat.3; R40 R67	99.5

For the full text of the H-Statements mentioned in this Section, see Section 16.

For the full text of the R-phrases mentioned in this Section, see Section 16.

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

- General advice : Move out of dangerous area.
Consult a physician.
Show this safety data sheet to the doctor in attendance.
- If inhaled : If breathed in, move person into fresh air.
Consult a physician after significant exposure.
Give oxygen or artificial respiration if needed.
- In case of skin contact : Take off contaminated clothing and shoes immediately.
Wash off with plenty of water.
If skin irritation persists, call a physician.
- In case of eye contact : Remove contact lenses.
Rinse with plenty of water.
Protect unharmed eye.
Keep eye wide open while rinsing.
Obtain medical attention.
- If swallowed : Clean mouth with water and drink afterwards plenty of water.
Never give anything by mouth to an unconscious person.
Induce vomiting, but only if victim is fully conscious.
Obtain medical attention.

4.2 Most important symptoms and effects, both acute and delayed

- Symptoms : Nausea
Vomiting
Fatigue

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

Dizziness
Headache
Shortness of breath

Risks : Later control for pneumonia and lung oedema.
May cause cardiac arrhythmia.
Respiratory disorders

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Treat symptomatically.
Do not give drugs from adrenaline-ephedrine group.

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting / Specific hazards arising from the chemical : Do not allow run-off from fire fighting to enter drains or water courses.
In case of fire hazardous decomposition products may be produced such as:
Carbon monoxide
Hydrogen chloride
Phosgene

5.3 Advice for firefighters

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.
Further information : Prevent fire extinguishing water from contaminating surface water or the ground water system.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Wear respiratory protection.
Ensure adequate ventilation.

6.2 Environmental precautions

Environmental precautions : Do not flush into surface water or sanitary sewer system.
If the product contaminates rivers and lakes or drains inform respective authorities.

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up / Methods for containment : Soak up with inert absorbent material.
Unsuitable material for picking up:
Earth
Sand

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

Additional advice : For personal protection see section 8.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Advice on safe handling : For personal protection see section 8.
Avoid formation of aerosol.
Do not breathe vapours or spray mist.
Smoking, eating and drinking should be prohibited in the application area.
Dispose of rinse water in accordance with local and national regulations.
Avoid contact with skin, eyes and clothing.

Advice on protection against fire and explosion : Normal measures for preventive fire protection.
Vapours are heavier than air and may spread along floors.
Do not burn, or use a cutting torch on, the empty drum.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Prevent unauthorized access.
Keep in a well-ventilated place.

Other data : Suitable container and packaging materials for safe storage
Stainless steel
Carbon steel

7.3 Specific end use(s)

Specific use(s) : Refer to attached exposure scenario Annex.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters

Components	CAS-No.	Value	Control parameters	Update	Basis	Form of exposure
Dichloromethane	75-09-2	TWA	100 ppm 350 mg/m ³	2007-08-01	GB EH40	
	Further information	:	Sk: Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			
		STEL	300 ppm 1,060 mg/m ³	2007-08-01	GB EH40	
	Further information	:	Sk: Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

STEL: Short term exposure limit
TWA: Time Weighted Average (TWA)

Component: Dichloromethane

DNEL/DMEL : Workers
Inhalation
Acute systemic effects
706 mg/m³

Workers
Inhalation
Long-term systemic effects
353 mg/m³

Workers
Skin contact
Long-term systemic effects
4750 mg/kg bw/day

Consumers
Inhalation
Acute systemic effects
353 mg/m³

Consumers
Inhalation
Long-term systemic effects
88.3 mg/m³

Consumers
Skin contact
Long-term systemic effects
2395 mg/kg bw/day

Consumers
Ingestion
Long-term systemic effects
0.06 mg/kg bw/day

Component: Dichloromethane

PNEC : Fresh water
0.54 mg/l

Marine water
0.194 mg/l

Intermittent water
0.27 mg/l

Sewage treatment plant

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

26 mg/l

Fresh water sediment
4.47 mg/kg

Marine sediment
1.61 mg/kg

Soil
0.583 mg/kg

8.2 Exposure controls

Engineering Controls

Effective exhaust ventilation system

Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protective equipment

Respiratory protection : In the case of vapour formation use a respirator with an approved filter.

Hand protection : Fluorinated rubber
Break through time: > 120 min
Glove thickness: > 0.4 mm

Fluorinated rubber
Break through time: > 480 min
Glove thickness: > 0.8 mm

PVA
Break through time: > 480 min
Glove thickness: > 0.8 mm

butyl-rubber
Break through time: > 10 min
Glove thickness: > 0.4 mm

Protective gloves complying with EN 374.

Eye protection : Safety glasses with side-shields conforming to EN166
or
Face-shield

Skin and body protection : Wear suitable protective clothing.
Boots

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice.
When using do not eat or drink.
When using do not smoke.
Wash hands before breaks and at the end of workday.

Environmental exposure controls

General advice : Do not flush into surface water or sanitary sewer system.

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

If the product contaminates rivers and lakes or drains inform respective authorities.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance

Form	: Clear liquid
Colour	: colourless
Odour	: sweet
Odour Threshold	: no data available

Safety data

pH	: not applicable
Melting point	: ca. -97 °C at 1,013 hPa
Boiling point	: 40 °C at 1,013 hPa
Flash point	: does not flash
Evaporation rate	: no data available
Flammability (solid, gas)	: The product is not flammable.
Lower explosion limit	: 13 %(V)
Upper explosion limit	: 22 %(V)
Vapour pressure	: 476 hPa at 20 °C 584 hPa at 25 °C 709 hPa at 30 °C
Relative vapor density	: 2.93 at 25 °C
Relative density	: 1.359 at 20 °C
Water solubility	: ca. 20 g/l at 20 °C
Solubility in other solvents	: miscible with most organic solvents
Partition coefficient: n-octanol/water	: log Pow: 1.25 at 20 °C
Auto-ignition temperature	: 605 °C at 1,013 hPa

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

Decomposition temperature	: > 120 °C
Viscosity, dynamic	: 0.42 mPa.s at 25 °C
Viscosity, kinematic	: no data available
Explosive properties	: Not explosive
Oxidizing properties	: Not classified as oxidising.

9.2 Other information

Peroxide content	: not applicable
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This safety datasheet only contains information relating to safety and does not replace any product information or product specification.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

Stable under normal conditions.

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

No dangerous reaction known under conditions of normal use.

10.4 Conditions to avoid

Conditions to avoid	: Avoid elevated temperatures
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10.5 Incompatible materials

Materials to avoid	: Zinc Magnesium Finely divided aluminium Strong bases Alkali metals Strong oxidizing agents Alkaline earth metals
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10.6 Hazardous decomposition products

Hazardous decomposition products	: Hydrogen chloride Carbon monoxide Phosgene
Thermal decomposition	: > 120 °C

SECTION 11: TOXICOLOGICAL INFORMATION

Product information:

Hazard Summary

Inhalation	: Inhalation of vapours is irritating to the respiratory system, may cause throat pain and cough.
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METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

Thermal decomposition can lead to release of irritating gases and vapours.

Inhalation may cause central nervous system effects.

- Skin : Causes skin irritation.
- Eyes : Causes serious eye irritation.
- Ingestion : May be harmful if swallowed.

11.1 Information on toxicological effects

Toxicology data for the components:

Toxicology Assessment

Dichloromethane

CMR effects : Carcinogenicity: Limited evidence of carcinogenicity in animal studies

Test result

Dichloromethane

- Acute oral toxicity : LD50: > 2,000 mg/kg
Species: rat
Method: OECD Test Guideline 401
- Acute inhalation toxicity : LC50: 86 mg/l
Exposure time: 4 h
Species: rat
- Acute dermal toxicity : LD50: > 2,000 mg/kg
Species: rat
Method: OECD Test Guideline 402
- Skin irritation : Species: rabbit
Irritating to skin.
Method: OECD Test Guideline 404
- Eye irritation : Species: rabbit
Irritating to eyes.
- Sensitisation : Species: mouse
Not sensitizing.
Method: OECD Guide-line 429 - Skin Sensitization: Local Lymph Node Assay
- Repeated dose toxicity : Species: rat
Application Route: Oral
Exposure time: 104 weeks ()
NOEL: 6
Method: OECD Test Guideline 453
- Species: rat
Application Route: Inhalation
Exposure time: 104 weeks ()
NOEL: 200

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

	Method: OECD Test Guideline 453
Germ cell mutagenicity	
Genotoxicity in vitro	: In vitro cytogenetic test in CHO cells: positive Method: OECD guide-line 476 - In vitro Mammalian Cell Gene Mutation Test
	In vitro gene mutation study in mammalian cells negative Method: Other guidelines
	Ames test positive Method: Mutagenicity (Salmonella typhimurium - reverse mutation assay)
Genotoxicity in vivo	: Chromosome aberration test in vivo Species: mouse Method: Mutagenicity (micronucleus test) negative
Reproductive toxicity/Fertility	: Method: OECD Test Guideline 416 Species: rat Application Route: Inhalation
Reproductive toxicity/Development/Teratogenicity	: Method: OECD Test Guideline 414 Species: mouse Application Route: Inhalation
	Method: OECD Test Guideline 414 Species: rat Application Route: Inhalation
Target Organ Systemic Toxicant - Single exposure	: May cause respiratory irritation. May cause drowsiness or dizziness.
Target Organ Systemic Toxicant - Repeated exposure	: Species: rat Application Route: Oral Exposure time: 104 weeks () NOEL: 6 Method: OECD Test Guideline 453 Species: rat Application Route: Inhalation Exposure time: 104 weeks () NOEL: 200 Method: OECD Test Guideline 453 Exposure routes: Inhalation Target Organs: Blood, Central nervous system May cause damage to organs through prolonged or repeated exposure. Exposure routes: Ingestion Target Organs: Blood, Liver

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

May cause damage to organs through prolonged or repeated exposure.

SECTION 12: ECOLOGICAL INFORMATION

Product information:

Ecotoxicology Assessment

Additional ecological information : None known.

12.1 Toxicity

Components:

Ecotoxicology Assessment

Dichloromethane

Results of PBT assessment : Not classified as PBT or vPvB

Test result

Dichloromethane

Toxicity to fish : LC50: 193 mg/l
Exposure time: 96 h
Species: Pimephales promelas (fathead minnow)
flow-through test Method: Other guidelines

LC50: 97 mg/l
Exposure time: 48 h
Species: Fundulus heteroclitus
Marine water Method: Other guidelines

Toxicity to daphnia and other aquatic invertebrates : LC50: 27 mg/l
Exposure time: 48 h
Species: Daphnia magna (Water flea)
Fresh water Method: EPA-660/3-75-009

LC50: 109 mg/l
Exposure time: 48 h
Species: Palaemonetes pugio
Marine water Method: Other guidelines

Toxicity to algae : NOEC: 550 mg/l
Exposure time: 192 h
Species: Microcystis aeruginosa - Algae, blue, cyanobacteria
Cell multiplication inhibition test

Toxicity to bacteria : EC50: 2,590 mg/l
Exposure time: 0.67 h
Respiration inhibition
Method: OECD Guide-line 209

Toxicity to fish (Chronic toxicity) : NOEC: 83 mg/l
Exposure time: 28 d
Species: Pimephales promelas (fathead minnow)
flow-through test
Method: Other guidelines

12.2 Persistence and degradability

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

Components:

Dichloromethane

Biodegradability : aerobic
Readily biodegradable.
66 %
Method: OECD Test Guideline 301D

12.3 Bioaccumulative potential

Components:

Dichloromethane

Bioaccumulation : No bioaccumulation is to be expected (log Pow <= 4).

12.4 Mobility in soil

Components:

Dichloromethane

Mobility : Medium: Soil
no data available

12.5 Results of PBT and vPvB assessment

Components:

Dichloromethane

PBT and vPvB assessment : Not classified as PBT or vPvB

12.6 Other adverse effects

Components:

Dichloromethane

Biochemical Oxygen Demand (BOD) : no data available

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product : Dispose of as hazardous waste in compliance with local and national regulations.
Where possible recycling is preferred to disposal or incineration.

Contaminated packaging : Dispose of contents/container in accordance with local regulation.

SECTION 14: TRANSPORT INFORMATION

14.1 UN number

ADR : 1593
RID : 1593
IMDG : 1593
IATA : 1593

14.2 Proper shipping name

ADR : DICHLOROMETHANE
RID : DICHLOROMETHANE

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

IMDG : DICHLOROMETHANE
IATA : Dichloromethane

14.3 Transport hazard class

ADR : 6.1
RID : 6.1
IMDG : 6.1
IATA : 6.1

14.4 Packing group

ADR
Packaging group : III
Classification Code : T1
Hazard identification No : 60
Labels : 6.1
Tunnel restriction code : (E)
RID
Packaging group : III
Classification Code : T1
Hazard identification No : 60
Labels : 6.1
IMDG
Packaging group : III
Labels : 6.1
EmS Number : F-A, S-A
IATA
Packing instruction (cargo aircraft) : 663
Packaging group : III
Labels : 6.1

14.5 Environmental hazards

ADR
Environmentally hazardous : no
RID
Environmentally hazardous : no
IMDG
Marine Pollutant : no
IATA
Environmentally hazardous : no

14.6 Special precautions for user

Handle with care.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

no data available

SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Major Accident Hazard : 96/82/EC Update: 2003
Legislation : Directive 96/82/EC does not apply

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

Water contaminating class : WGK 2 water endangering
(Germany)

Notification status

CH INV : YES. The formulation contains substances listed on the Swiss Inventory
US.TSCA : YES. All chemical substances in this product are either listed on the
TSCA Inventory or in compliance with a TSCA Inventory exemption.
DSL : YES. All components of this product are on the Canadian DSL.
AICS : YES. On the inventory, or in compliance with the inventory
NZIoC : YES. On the inventory, or in compliance with the inventory
ENCS : YES. On the inventory, or in compliance with the inventory
ISHL : YES. On the inventory, or in compliance with the inventory
KECI : YES. On the inventory, or in compliance with the inventory
PICCS : YES. On the inventory, or in compliance with the inventory
IECSC : YES. On the inventory, or in compliance with the inventory

For explanation of abbreviation see section 16.

15.2 Chemical Safety Assessment

Dichloromethane : A Chemical Safety Assessment has been carried out for this
substance.

SECTION 16: OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3.

H315 Causes skin irritation.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.
H351 Suspected of causing cancer.
H373 May cause damage to organs through prolonged or repeated exposure.

Full text of R-phrases referred to under sections 2 and 3

R36/37/38 Irritating to eyes, respiratory system and skin.
R40 Limited evidence of a carcinogenic effect.
R67 Vapours may cause drowsiness and dizziness.

Full list of P-statements.

Prevention:

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and
understood.
P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P264 Wash skin thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/ eye protection/ face protection.

Response:

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P304 + P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313	IF exposed or concerned: Get medical advice/ attention.
P362	Take off contaminated clothing and wash before reuse.
Storage:	
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
Disposal:	
P501	Dispose of contents/ container to an approved waste disposal plant.

Explanations for possible abbreviations mentioned in section 2

PBT	: PBT: Persistent, bioaccumulative and toxic.
vPvB	: vPvB: Very persistent and very bioaccumulative.
OEL	: OEL: Occupational exposure limit.

Notification status explanation

CH INV	Switzerland. New notified substances and declared preparations
US.TSCA	United States TSCA Inventory
DSL	Canadian Domestic Substances List (DSL)
AICS	Australia Inventory of Chemical Substances (AICS)
NZIoC	New Zealand. Inventory of Chemical Substances
ENCS	Japan. ENCS - Existing and New Chemical Substances Inventory
ISHL	Japan. ISHL - Inventory of Chemical Substances (METI)
KECI	Korea. Korean Existing Chemicals Inventory (KECI)
PICCS	Philippines Inventory of Chemicals and Chemical Substances (PICCS)
IECSC	China. Inventory of Existing Chemical Substances in China (IECSC)

Further information

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

Annex :

- 1. Manufacture, Recycling, Distribution of substance**
- 2. Intermediate**
- 3. Formulation & (re)packing of substances and mixtures**
- 4. Use as Process chemical**
- 5. Use in Paints/ Coatings (industrial)**
- 6. Use in cleaning agents**
- 7. Use of blowing agents in manufacture of foam**
- 8. Use in/as functional fluids (industrial)**
- 9. Use in Paints/Coatings**
- 10. Use in cleaning agents**
- 11. Use in cosmetics**
- 12. Use in agrochemicals (professional)**
- 13. Packing and repacking of formulations**
- 14. Laboratory Reagents**
- 15. Consumer use**

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

1. Short title of Exposure Scenario: Manufacture, Recycling, Distribution of substance

Main User Groups	: SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
Sectors of end-use	: SU8, SU9: Manufacture of bulk, large scale chemicals (including petroleum products), Manufacture of fine chemicals
Environmental Release Categories	: ERC1: Manufacture of substances
Process categories	: PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Use in closed batch process (synthesis or formulation) PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC8a: Transfer of substance or preparation (charging/discharging) from/ to vessels/ large containers at non-dedicated facilities PROC8b: Transfer of substance or preparation (charging/discharging) from/ to vessels/ large containers at dedicated facilities PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing) PROC15: Use as laboratory reagent

2.1 Contributing scenario controlling environmental exposure for: ERC1: Manufacture of substances

Amount used

Daily amount per site	: 8570 kg
Annual amount per site	: 2570 tonnes

Environment factors not influenced by risk management

Flow rate	: 18,000 m ³ /day
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Other given operational conditions affecting environmental exposure

Continuous use/release

Number of emission days per year	: 300
Emission or Release Factor: Air	: 0.000060 %
Emission or Release Factor: Water	: 0.000369 %
Emission or Release Factor: Soil	: 0 %
Remarks	: Indoor use, Used in closed system

Technical conditions and measures / Organizational measures

Air	: No air emission controls required; required removal efficiency is 0%.
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METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

Water	: Treat on-site wastewater (prior to receiving water discharge). (Effectiveness (of a measure): 93.5 %)
Soil	: Soil emission controls are not applicable as there is no direct release to soil.
Remarks	: Common practices vary across sites thus conservative process release estimates used.
Water	: Prevent discharge of undissolved substance to or recover from wastewater.

Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment Plant	: Sewage treatment plant
Flow rate of sewage treatment plant effluent	: 63,072 m ³ /day
Percentage removed from waste water	: 93.5 %
Remarks	: Domestic sewage treatment is not assumed.

2.2 Contributing scenario controlling worker exposure for: PROC1: Use in closed process, no likelihood of exposure

Product characteristics

Concentration of the Substance in Mixture/Article	: Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use)	: Liquid, vapour pressure > 10 kPa

Frequency and duration of use

Remarks	: Covers daily exposures up to 8 hours (unless stated differently).
	: , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Handle substance within a closed system.

Organisational measures to prevent /limit releases, dispersion and exposure

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

2.3 Contributing scenario controlling worker exposure for: PROC2: Use in closed, continuous process with occasional controlled exposure

Product characteristics

Concentration of the Substance in Mixture/Article	: Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use)	: Liquid, vapour pressure > 10 kPa

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

Frequency and duration of use

- Remarks : Covers daily exposures up to 8 hours (unless stated differently).
- : , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Handle substance within a closed system.

Organisational measures to prevent /limit releases, dispersion and exposure

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

2.4 Contributing scenario controlling worker exposure for: PROC3: Use in closed batch process (synthesis or formulation)

Product characteristics

- Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100 % (unless stated differently).
- Physical Form (at time of use) : Liquid, vapour pressure > 10 kPa

Frequency and duration of use

- Remarks : Covers daily exposures up to 8 hours (unless stated differently).
- : , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Handle substance within a predominantly closed system provided with extract ventilation. (Effectiveness (of a measure): 90 %)

Organisational measures to prevent /limit releases, dispersion and exposure

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

2.5 Contributing scenario controlling worker exposure for: PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use) : Liquid, vapour pressure > 10 kPa

Frequency and duration of use

Remarks : Covers daily exposures up to 8 hours (unless stated differently).
: , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Provide extraction ventilation at points where emissions occur. (Effectiveness (of a measure): 90 %)

Organisational measures to prevent /limit releases, dispersion and exposure

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

2.6 Contributing scenario controlling worker exposure for: PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use) : Liquid, vapour pressure > 10 kPa

Frequency and duration of use

Remarks : Covers daily exposures up to 8 hours (unless stated differently).
: , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Drain or remove substance from equipment prior to break-in or maintenance. (Effectiveness (of a measure): 80 %)

Organisational measures to prevent /limit releases, dispersion and exposure

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

Conditions and measures related to personal protection, hygiene and health evaluation
Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

2.7 Contributing scenario controlling worker exposure for: PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use) : Liquid, vapour pressure > 10 kPa

Frequency and duration of use

Remarks : Covers daily exposures up to 8 hours (unless stated differently).
: , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Fill containers/cans at dedicated filling points supplied with local extract ventilation.
(Effectiveness (of a measure): 97 %)

Organisational measures to prevent /limit releases, dispersion and exposure

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.

Conditions and measures related to personal protection, hygiene and health evaluation
Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

2.8 Contributing scenario controlling worker exposure for: PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use) : Liquid, vapour pressure > 10 kPa

Frequency and duration of use

Remarks : Covers daily exposures up to 8 hours (unless stated differently).
: , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Fill containers/cans at dedicated filling points supplied with local extract ventilation.
(Effectiveness (of a measure): 90 %)

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

Organisational measures to prevent /limit releases, dispersion and exposure

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

2.9 Contributing scenario controlling worker exposure for: PROC15: Use as laboratory reagent

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use) : Liquid, vapour pressure > 10 kPa

Frequency and duration of use

Remarks : Covers daily exposures up to 8 hours (unless stated differently).
: , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of occupational hygiene is implemented.

Organisational measures to prevent /limit releases, dispersion and exposure

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

3. Exposure estimation and reference to its source

Environment

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment	Value	Level of Exposure	RCR
ERC1	EUSES		Fresh water		5.17 µg/L	0.00957
ERC1	EUSES		Marine water		0.416 µg/L	0.00214
ERC1	EUSES		Fresh water sediment		9.3 µg/kg wwt	0.00957
ERC1	EUSES		Marine sediment		0.749 µg/kg wwt	0.00214
ERC1	EUSES		Soil		0.126 µg/kg	0.000245
ERC1	EUSES		Groundwater		0.0498 µg/L	0.000092

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

ERC1	EUSES		Sewage treatment plant		0.883 µg/L	0.000034
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Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value	Level of Exposure	RCR
PROC1	ECETOC TRA v2.0 Worker		Chronic inhalation systemic exposure	0.01 ppm	0.0001
PROC1	ECETOC TRA v2.0 Worker		Chronic dermal systemic exposure	0.07 mg/kg/day	0.00001
PROC2	ECETOC TRA v2.0 Worker		Chronic inhalation systemic exposure	50 ppm	0.5
PROC2	ECETOC TRA v2.0 Worker		Chronic dermal systemic exposure	0.27 mg/kg/day	0.00006
PROC3	ECETOC TRA v2.0 Worker		Chronic inhalation systemic exposure	10 ppm	0.1
PROC3	ECETOC TRA v2.0 Worker		Chronic dermal systemic exposure	0.07 mg/kg/day	0.00001
PROC4	ECETOC TRA v2.0 Worker		Chronic inhalation systemic exposure	10 ppm	0.1
PROC4	ECETOC TRA v2.0 Worker		Chronic dermal systemic exposure	1.37 mg/kg/day	0.0003
PROC8a	ECETOC TRA v2.0 Worker		Chronic inhalation systemic exposure	50 ppm	0.5
PROC8a	ECETOC TRA v2.0 Worker		Chronic dermal systemic exposure	2.74 mg/kg/day	0.0006
PROC8b	ECETOC TRA v2.0 Worker		Chronic inhalation systemic exposure	4.5 ppm	0.05
PROC8b	ECETOC TRA		Chronic	1.37	0.0003

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

	v2.0 Worker		dermal systemic exposure	mg/kg/day	
PROC9	ECETOC TRA v2.0 Worker		Chronic inhalation systemic exposure	20 ppm	0.2
PROC9	ECETOC TRA v2.0 Worker		Chronic dermal systemic exposure	1.37 mg/kg/day	0.0003
PROC15	ECETOC TRA v2.0 Worker		Chronic inhalation systemic exposure	50 ppm	0.5
PROC15	ECETOC TRA v2.0 Worker		Chronic dermal systemic exposure	0.07 mg/kg/day	0.00001

ERC1: Manufacture of substances

PROC1: Use in closed process, no likelihood of exposure

PROC15: Use as laboratory reagent

PROC2: Use in closed, continuous process with occasional controlled exposure

PROC3: Use in closed batch process (synthesis or formulation)

PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises

PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities

PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities

PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

1. Short title of Exposure Scenario: Intermediate

Main User Groups	: SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
Sectors of end-use	: SU8, SU9: Manufacture of bulk, large scale chemicals (including petroleum products), Manufacture of fine chemicals
Environmental Release Categories	: ERC6a: Industrial use resulting in manufacture of another substance (use of intermediates)
Process categories	: PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Use in closed batch process (synthesis or formulation) PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC8a: Transfer of substance or preparation (charging/discharging) from/ to vessels/ large containers at non-dedicated facilities PROC8b: Transfer of substance or preparation (charging/discharging) from/ to vessels/ large containers at dedicated facilities PROC15: Use as laboratory reagent

2.1 Contributing scenario controlling environmental exposure for: ERC6a: Industrial use resulting in manufacture of another substance (use of intermediates)

Amount used

Daily amount per site	: 8567 kg
Annual amount per site	: 2570 tonnes

Environment factors not influenced by risk management

Flow rate	: 18,000 m ³ /day
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Other given operational conditions affecting environmental exposure

Continuous use/release

Number of emission days per year	: 300
Emission or Release Factor: Air	: 0.0005 %
Emission or Release Factor: Water	: 0.01 %
Emission or Release Factor: Soil	: 0 %
Remarks	: Indoor use, Used in closed system

Technical conditions and measures / Organizational measures

Air	: No air emission controls required; required removal efficiency is 0%.
Water	: Ensure all waste water is collected and treated via a WWTP. (Effectiveness (of a measure): 93.5 %)

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

- Soil** : Soil emission controls are not applicable as there is no direct release to soil.
- Water** : Prevent discharge of undissolved substance to or recover from wastewater.

Conditions and measures related to municipal sewage treatment plant

- Type of Sewage Treatment Plant** : Municipal sewage treatment plant
- Flow rate of sewage treatment plant effluent** : 2,000 m³/day
- Percentage removed from waste water** : 93.5 %

2.2 Contributing scenario controlling worker exposure for: PROC1: Use in closed process, no likelihood of exposure

Product characteristics

- Concentration of the Substance in Mixture/Article** : Covers the percentage of the substance in the product up to 100 % (unless stated differently).
- Physical Form (at time of use)** : Liquid, vapour pressure > 10 kPa

Frequency and duration of use

- Remarks** : Covers daily exposures up to 8 hours (unless stated differently).
- : , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Handle substance within a closed system.

Organisational measures to prevent /limit releases, dispersion and exposure

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

2.3 Contributing scenario controlling worker exposure for: PROC2: Use in closed, continuous process with occasional controlled exposure

Product characteristics

- Concentration of the Substance in Mixture/Article** : Covers the percentage of the substance in the product up to 100 % (unless stated differently).
- Physical Form (at time of use)** : Liquid, vapour pressure > 10 kPa

Frequency and duration of use

- Remarks** : Covers daily exposures up to 8 hours (unless stated differently).

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

: , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Handle substance within a closed system.

Organisational measures to prevent /limit releases, dispersion and exposure

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

2.4 Contributing scenario controlling worker exposure for: PROC3: Use in closed batch process (synthesis or formulation)

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use) : Liquid, vapour pressure > 10 kPa

Frequency and duration of use

Remarks : Covers daily exposures up to 8 hours (unless stated differently).
: , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Handle substance within a predominantly closed system provided with extract ventilation. (Effectiveness (of a measure): 90 %)

Organisational measures to prevent /limit releases, dispersion and exposure

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

2.5 Contributing scenario controlling worker exposure for: PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use) : Liquid, vapour pressure > 10 kPa

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

Frequency and duration of use

- Remarks
- : Covers daily exposures up to 8 hours (unless stated differently).
 - : , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Provide extraction ventilation at points where emissions occur. (Effectiveness (of a measure): 90 %)

Organisational measures to prevent /limit releases, dispersion and exposure

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

2.6 Contributing scenario controlling worker exposure for: PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities

Product characteristics

- Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100 % (unless stated differently).
- Physical Form (at time of use) : Liquid, vapour pressure > 10 kPa

Frequency and duration of use

- Remarks
- : Covers daily exposures up to 8 hours (unless stated differently).
 - : , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Drain or remove substance from equipment prior to break-in or maintenance. (Effectiveness (of a measure): 80 %)

Organisational measures to prevent /limit releases, dispersion and exposure

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

2.7 Contributing scenario controlling worker exposure for: PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities

Product characteristics

- Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use) : Liquid, vapour pressure > 10 kPa

Frequency and duration of use

- Remarks : Covers daily exposures up to 8 hours (unless stated differently).
: , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Fill containers/cans at dedicated filling points supplied with local extract ventilation.
(Effectiveness (of a measure): 97 %)

Organisational measures to prevent /limit releases, dispersion and exposure

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

2.8 Contributing scenario controlling worker exposure for: PROC15: Use as laboratory reagent

Product characteristics

- Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use) : Liquid, vapour pressure > 10 kPa

Frequency and duration of use

- Remarks : Covers daily exposures up to 8 hours (unless stated differently).
: , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of occupational hygiene is implemented.

Organisational measures to prevent /limit releases, dispersion and exposure

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

3. Exposure estimation and reference to its source

Environment

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment	Value	Level of Exposure	RCR
ERC6a	EUSES		Fresh water		0.057 mg/L	0.105
ERC6a	EUSES		Marine water		0.0056 mg/L	0.029
ERC6a	EUSES		Fresh water sediment		0.102 mg/kg wet weight	0.105
ERC6a	EUSES		Marine sediment		0.01 mg/kg wet weight	0.029
ERC6a	EUSES		Soil		0.058 mg/kg dry weight	0.11
ERC6a	EUSES		Groundwater		0.012 mg/L	0.02
ERC6a	EUSES		Sewage treatment plant		0.517 mg/L	0.020

Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value	Level of Exposure	RCR
PROC1	ECETOC TRA v2.0 Worker		Chronic inhalation systemic exposure	0.01 ppm	0.0001
PROC1	ECETOC TRA v2.0 Worker		Chronic dermal systemic exposure	0.07 mg/kg/day	0.00001
PROC2	ECETOC TRA v2.0 Worker		Chronic inhalation systemic exposure	50 ppm	0.5
PROC2	ECETOC TRA v2.0 Worker		Chronic dermal systemic exposure	0.27 mg/kg/day	0.00006
PROC3	ECETOC TRA v2.0 Worker		Chronic inhalation systemic exposure	10 ppm	0.1
PROC3	ECETOC TRA v2.0 Worker		Chronic dermal systemic exposure	0.07 mg/kg/day	0.00001

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

PROC4	ECETOC TRA v2.0 Worker		Chronic inhalation systemic exposure	10 ppm	0.1
PROC4	ECETOC TRA v2.0 Worker		Chronic dermal systemic exposure	1.37 mg/kg/day	0.0003
PROC8a	ECETOC TRA v2.0 Worker		Chronic inhalation systemic exposure	50 ppm	0.5
PROC8a	ECETOC TRA v2.0 Worker		Chronic dermal systemic exposure	2.74 mg/kg/day	0.0006
PROC8b	ECETOC TRA v2.0 Worker		Chronic inhalation systemic exposure	4.5 ppm	0.05
PROC8b	ECETOC TRA v2.0 Worker		Chronic dermal systemic exposure	1.37 mg/kg/day	0.0003
PROC15	ECETOC TRA v2.0 Worker		Chronic inhalation systemic exposure	50 ppm	0.5
PROC15	ECETOC TRA v2.0 Worker		Chronic dermal systemic exposure	0.07 mg/kg/day	0.00001

ERC6a: Industrial use resulting in manufacture of another substance (use of intermediates)

PROC1: Use in closed process, no likelihood of exposure

PROC15: Use as laboratory reagent

PROC2: Use in closed, continuous process with occasional controlled exposure

PROC3: Use in closed batch process (synthesis or formulation)

PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises

PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities

PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

1. Short title of Exposure Scenario: Formulation & (re)packing of substances and mixtures

Main User Groups	: SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
Sectors of end-use	: SU 10: Formulation [mixing] of preparations and/ or re-packaging (excluding alloys)
Environmental Release Categories	: ERC2: Formulation of preparations
Process categories	: PROC3: Use in closed batch process (synthesis or formulation) PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact) PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing) PROC15: Use as laboratory reagent

2.1 Contributing scenario controlling environmental exposure for: ERC6a: Industrial use resulting in manufacture of another substance (use of intermediates)

Activity : Paint strippers

Amount used

Daily amount per site : 797 kg
Annual amount per site : 239 tonnes

Environment factors not influenced by risk management

Flow rate : 18,000 m³/day

Other given operational conditions affecting environmental exposure

Continuous use/release

Number of emission days per year : 300

Emission or Release Factor: Air : 0.025 %

Emission or Release Factor: : 0.02 %

Water

Emission or Release Factor: Soil : 0 %

Remarks : Indoor use

Technical conditions and measures / Organizational measures

Air : No air emission controls required; required removal

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

efficiency is 0%.
Water : Ensure all waste water is collected and treated via a WWTP., Prevent discharge of undissolved substance to or recover from wastewater.
Soil : Soil emission controls are not applicable as there is no direct release to soil.

Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment Plant : Municipal sewage treatment plant
Flow rate of sewage treatment plant effluent : 2,000 m3/day
Percentage removed from waste water : 93.5 %

2.1 Contributing scenario controlling environmental exposure for: ERC6a: Industrial use resulting in manufacture of another substance (use of intermediates)

Activity : Aerosols

Amount used

Daily amount per site : 3334 kg
Annual amount per site : 1000 tonnes

Environment factors not influenced by risk management

Flow rate : 18,000 m3/day

Other given operational conditions affecting environmental exposure

Continuous use/release

Number of emission days per year : 300

Emission or Release Factor: Air : 0.025 %

Emission or Release Factor: : 0.02 %

Water

Emission or Release Factor: Soil : 0 %

Remarks : Indoor use

Technical conditions and measures / Organizational measures

Air : No air emission controls required; required removal efficiency is 0%.

Water : Ensure all waste water is collected and treated via a WWTP., Prevent discharge of undissolved substance to or recover from wastewater.

Soil : Soil emission controls are not applicable as there is no direct release to soil.

Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment Plant : Municipal sewage treatment plant
Flow rate of sewage treatment plant effluent : 2,000 m3/day
Percentage removed from waste water : 93.5 %

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

2.1 Contributing scenario controlling environmental exposure for: ERC6a: Industrial use resulting in manufacture of another substance (use of intermediates)

Activity : Metal degreasers

Amount used

Daily amount per site : 3933 kg
Annual amount per site : 1180 tonnes

Environment factors not influenced by risk management

Flow rate : 18,000 m³/day

Other given operational conditions affecting environmental exposure

Continuous use/release

Number of emission days per year : 300

Emission or Release Factor: Air : 0.025 %

Emission or Release Factor: : 0.02 %

Water

Emission or Release Factor: Soil : 0 %

Remarks : Indoor use

Technical conditions and measures / Organizational measures

Air : No air emission controls required; required removal efficiency is 0%.

Water : Ensure all waste water is collected and treated via a WWTP., Prevent discharge of undissolved substance to or recover from wastewater.

Soil : Soil emission controls are not applicable as there is no direct release to soil.

Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment Plant : Municipal sewage treatment plant

Flow rate of sewage treatment plant effluent : 2,000 m³/day

Percentage removed from waste water : 93.5 %

2.1 Contributing scenario controlling environmental exposure for: ERC6a: Industrial use resulting in manufacture of another substance (use of intermediates)

Activity : Coatings and paints, thinners, paint removers

Amount used

Daily amount per site : 1898 kg
Annual amount per site : 569 tonnes

Environment factors not influenced by risk management

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

Flow rate : 18,000 m³/day

Other given operational conditions affecting environmental exposure

Continuous use/release

Number of emission days per year : 300

Emission or Release Factor: Air : 0.01 %

Emission or Release Factor: : 0 %

Water

Emission or Release Factor: Soil : 0 %

Remarks : Indoor use

Technical conditions and measures / Organizational measures

Air : No air emission controls required; required removal efficiency is 0%.

Water : Ensure all waste water is collected and treated via a WWTP., Prevent discharge of undissolved substance to or recover from wastewater.

Soil : Soil emission controls are not applicable as there is no direct release to soil.

Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment Plant : Municipal sewage treatment plant

Flow rate of sewage treatment plant effluent : 2,000 m³/day

Percentage removed from waste water : 93.5 %

2.5 Contributing scenario controlling worker exposure for: PROC3: Use in closed batch process (synthesis or formulation)

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100 % (unless stated differently).

Physical Form (at time of use) : Liquid, vapour pressure > 10 kPa

Frequency and duration of use

Remarks : Covers daily exposures up to 8 hours (unless stated differently).

: , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Handle substance within a predominantly closed system provided with extract ventilation.
(Effectiveness (of a measure): 90 %)

Organisational measures to prevent /limit releases, dispersion and exposure

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

Conditions and measures related to personal protection, hygiene and health evaluation
Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

2.6 Contributing scenario controlling worker exposure for: PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises

Product characteristics

- Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use) : Liquid, vapour pressure > 10 kPa

Frequency and duration of use

- Remarks : Covers daily exposures up to 8 hours (unless stated differently).
: , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Provide extraction ventilation at points where emissions occur. (Effectiveness (of a measure): 90 %)

Organisational measures to prevent /limit releases, dispersion and exposure

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.

Conditions and measures related to personal protection, hygiene and health evaluation
Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

2.7 Contributing scenario controlling worker exposure for: PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact)

Product characteristics

- Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use) : Liquid, vapour pressure > 10 kPa

Frequency and duration of use

- Remarks : Covers daily exposures up to 8 hours (unless stated differently).
: , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Provide extraction ventilation at points where emissions occur. (Effectiveness (of a measure): 90 %)

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

Organisational measures to prevent /limit releases, dispersion and exposure

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

2.8 Contributing scenario controlling worker exposure for: PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use) : Liquid, vapour pressure > 10 kPa

Frequency and duration of use

Remarks : Covers daily exposures up to 8 hours (unless stated differently).
: , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Provide extraction ventilation at points where emissions occur. (Effectiveness (of a measure): 90 %)

Organisational measures to prevent /limit releases, dispersion and exposure

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

2.9 Contributing scenario controlling worker exposure for: PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use) : Liquid, vapour pressure > 10 kPa

Frequency and duration of use

Remarks : Covers daily exposures up to 8 hours (unless stated differently).

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

: , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Fill containers/cans at dedicated filling points supplied with local extract ventilation.
(Effectiveness (of a measure): 97 %)

Organisational measures to prevent /limit releases, dispersion and exposure

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

2.10 Contributing scenario controlling worker exposure for: PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use) : Liquid, vapour pressure > 10 kPa

Frequency and duration of use

Remarks : Covers daily exposures up to 8 hours (unless stated differently).
: , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Fill containers/cans at dedicated filling points supplied with local extract ventilation.
(Effectiveness (of a measure): 90 %)

Organisational measures to prevent /limit releases, dispersion and exposure

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

2.11 Contributing scenario controlling worker exposure for: PROC15: Use as laboratory reagent

Product characteristics

Concentration of the Substance : Covers the percentage of the substance in the product up

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

in Mixture/Article : to 100 % (unless stated differently).
Physical Form (at time of use) : Liquid, vapour pressure > 10 kPa

Frequency and duration of use : Covers daily exposures up to 8 hours (unless stated differently).
Remarks

: , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of occupational hygiene is implemented.

Organisational measures to prevent /limit releases, dispersion and exposure

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

3. Exposure estimation and reference to its source

Environment

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment	Value	Level of Exposure	RCR
ERC2	EUSES	Paint strippers	Fresh water		0.283 mg/L	0.524
ERC2	EUSES	Paint strippers	Marine water		0.0282 mg/L	0.145
ERC2	EUSES	Paint strippers	Fresh water sediment		0.509 mg/kg wet weight	0.524
ERC2	EUSES	Paint strippers	Marine sediment		0.0507 mg/kg wet weight	0.145
ERC2	EUSES	Paint strippers	Soil		0.308 mg/kg dry weight	0.599
ERC2	EUSES	Paint strippers	Groundwater		0.0639 mg/L	0.118
ERC2	EUSES	Paint strippers	Sewage treatment plant		2.78 mg/L	0.107
ERC2	EUSES	Aerosol	Fresh water		4.96 µg/L	0.00919
ERC2	EUSES	Aerosol	Marine water		4.00 µg/L	0.00206
ERC2	EUSES	Aerosol	Fresh water sediment		8.93 µg/kg wwt	0.00919
ERC2	EUSES	Aerosol	Marine sediment		0.72 µg/kg wwt	0.00206
ERC2	EUSES	Aerosol	Soil		1.29 µg/kg	0.00251
ERC2	EUSES	Aerosol	Groundwater		1.26 µg/L	0.00233
ERC2	EUSES	Aerosol	Sewage		1.06 µg/L	0.00004

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

			treatment plant			
ERC2	EUSES	Metal degreasers	Fresh water		0.259 mg/L	0.480
ERC2	EUSES	Metal degreasers	Marine water		0.029 mg/L	0.133
ERC2	EUSES	Metal degreasers	Fresh water sediment		0.467 mg/kg wet weight	0.480
ERC2	EUSES	Metal degreasers	Marine sediment		0.047 mg/kg wet weight	0.133
ERC2	EUSES	Metal degreasers	Soil		0.283 mg/kg dry weight	0.550
ERC2	EUSES	Metal degreasers	Groundwater		0.059 mg/L	0.110
ERC2	EUSES	Metal degreasers	Sewage treatment plant		2.54 mg/L	0.098
ERC2	EUSES	Adhesives, sealants	Fresh water		4.85 µg/L	0.0090
ERC2	EUSES	Adhesives, sealants	Marine water		0.39 µg/L	0.0020
ERC2	EUSES	Adhesives, sealants	Fresh water sediment		8.74 µg/kg wwt	0.0090
ERC2	EUSES	Adhesives, sealants	Marine sediment		0.701 µg/kg wwt	0.0020
ERC2	EUSES	Adhesives, sealants	Soil		0.419 µg/kg	0.0073
ERC2	EUSES	Adhesives, sealants	Groundwater		0.440 µg/L	0.0008
ERC2	EUSES	Adhesives, sealants	Sewage treatment plant		0 mg/L	0

Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value	Level of Exposure	RCR
PROC3	ECETOC TRA v2.0 Worker		Chronic inhalation systemic exposure	10 ppm	0.1
PROC3	ECETOC TRA v2.0 Worker		Chronic dermal systemic exposure	0.07 mg/kg/day	0.00001
PROC4	ECETOC TRA v2.0 Worker		Chronic inhalation systemic exposure	10 ppm	0.1
PROC4	ECETOC TRA v2.0 Worker		Chronic dermal systemic exposure	1.37 mg/kg/day	0.0003

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

PROC8a	ECETOC TRA v2.0 Worker		Chronic inhalation systemic exposure	25 ppm	0.25
PROC8a	ECETOC TRA v2.0 Worker		Chronic dermal systemic exposure	2.74 mg/kg/day	0.0006
PROC8a	ECETOC TRA v2.0 Worker		Chronic inhalation systemic exposure	25 ppm	0.25
PROC8a	ECETOC TRA v2.0 Worker		Chronic dermal systemic exposure	2.74 mg/kg/day	0.0006
PROC8b	ECETOC TRA v2.0 Worker		Chronic inhalation systemic exposure	4.5 ppm	0.05
PROC8b	ECETOC TRA v2.0 Worker		Chronic dermal systemic exposure	1.37 mg/kg/day	0.0003
PROC9	ECETOC TRA v2.0 Worker		Chronic inhalation systemic exposure	20 ppm	0.2
PROC9	ECETOC TRA v2.0 Worker		Chronic dermal systemic exposure	1.37 mg/kg/day	0.0003
PROC15	ECETOC TRA v2.0 Worker		Chronic inhalation systemic exposure	50 ppm	0.5
PROC15	ECETOC TRA v2.0 Worker		Chronic dermal systemic exposure	0.07 mg/kg/day	0.00001

ERC2: Formulation of preparations

PROC15: Use as laboratory reagent

PROC3: Use in closed batch process (synthesis or formulation)

PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises

PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities

PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities

PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

1. Short title of Exposure Scenario: Use as Process chemical

Main User Groups	: SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
Sectors of end-use	: SU5, SU9: Manufacture of textiles, leather, fur, Manufacture of fine chemicals
Environmental Release Categories	: ERC4: Industrial use of processing aids in processes and products, not becoming part of articles
Process categories	: PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Use in closed batch process (synthesis or formulation) PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC10: Roller application or brushing PROC15: Use as laboratory reagent

2.1 Contributing scenario controlling environmental exposure for: ERC4: Industrial use of processing aids in processes and products, not becoming part of articles

Activity : solvents

Amount used

Daily amount per site : 24100 kg
Annual amount per site : 2410 tonnes

Environment factors not influenced by risk management

Flow rate : 18,000 m³/day

Other given operational conditions affecting environmental exposure

Continuous use/release

Number of emission days per year : 100

Emission or Release Factor: Air : 0.669 %

Emission or Release Factor: : 0.00154 %

Water

Emission or Release Factor: Soil : 0 %

Remarks : Indoor use, Used in closed system

Technical conditions and measures / Organizational measures

Air : No air emission controls required; required removal efficiency is 0%.

Water : Ensure all waste water is collected and treated via a WWTP., Prevent discharge of undissolved substance to or recover from wastewater.

Soil : Soil emission controls are not applicable as there is no direct release to soil.

Conditions and measures related to municipal sewage treatment plant

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

Type of Sewage Treatment Plant : Municipal sewage treatment plant
Flow rate of sewage treatment : 2,000 m³/day
plant effluent
Percentage removed from waste : 93.5 %
water

2.1 Contributing scenario controlling environmental exposure for: ERC4: Industrial use of processing aids in processes and products, not becoming part of articles

Activity : Extraction agents

Amount used

Daily amount per site : 36712 kg
Annual amount per site : 13400 tonnes

Environment factors not influenced by risk management

Flow rate : 18,000 m³/day

Other given operational conditions affecting environmental exposure

Continuous use/release

Number of emission days per : 365
year
Emission or Release Factor: Air : 0.000706 %
Emission or Release Factor: : 0.00529 %
Water
Emission or Release Factor: Soil : 0 %
Remarks : Indoor use, Used in closed system

Technical conditions and measures / Organizational measures

Air : No air emission controls required; required removal efficiency is 0%.
Water : Ensure all waste water is collected and treated via a WWTP., Prevent discharge of undissolved substance to or recover from wastewater.
Soil : Soil emission controls are not applicable as there is no direct release to soil.

Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment Plant : Municipal sewage treatment plant
Flow rate of sewage treatment : 2,000 m³/day
plant effluent
Percentage removed from waste : 93.5 %
water

2.1 Contributing scenario controlling environmental exposure for: ERC4: Industrial use of processing aids in processes and products, not becoming part of articles

Activity : Extraction agents

Amount used

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

Daily amount per site : 38460 kg
Annual amount per site : 3846 tonnes

Environment factors not influenced by risk management

Flow rate : 18,000 m³/day

Other given operational conditions affecting environmental exposure

Continuous use/release

Number of emission days per year : 100

Emission or Release Factor: Air : 0.114 %

Emission or Release Factor: : 0.095 %

Water

Emission or Release Factor: Soil : 0 %

Remarks : Indoor use, Used in closed system

Technical conditions and measures / Organizational measures

Air : No air emission controls required; required removal efficiency is 0%.

Water : Ensure all waste water is collected and treated via a WWTP., Prevent discharge of undissolved substance to or recover from wastewater.

Soil : Soil emission controls are not applicable as there is no direct release to soil.

Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment Plant : Municipal sewage treatment plant

Flow rate of sewage treatment plant effluent : 2,000 m³/day

Percentage removed from waste water : 93.5 %

2.4 Contributing scenario controlling worker exposure for: PROC1: Use in closed process, no likelihood of exposure

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100 % (unless stated differently).

Physical Form (at time of use) : Liquid, vapour pressure > 10 kPa

Frequency and duration of use

Remarks : Covers daily exposures up to 8 hours (unless stated differently).

: , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Handle substance within a closed system.

Organisational measures to prevent /limit releases, dispersion and exposure

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.

Conditions and measures related to personal protection, hygiene and health evaluation
Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

2.5 Contributing scenario controlling worker exposure for: PROC2: Use in closed, continuous process with occasional controlled exposure

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use) : Liquid, vapour pressure > 10 kPa

Frequency and duration of use

Remarks : Covers daily exposures up to 8 hours (unless stated differently).
: , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Handle substance within a closed system.

Organisational measures to prevent /limit releases, dispersion and exposure

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.

Conditions and measures related to personal protection, hygiene and health evaluation
Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

2.6 Contributing scenario controlling worker exposure for: PROC3: Use in closed batch process (synthesis or formulation)

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use) : Liquid, vapour pressure > 10 kPa

Frequency and duration of use

Remarks : Covers daily exposures up to 8 hours (unless stated differently).
: , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of occupational hygiene is implemented.

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

Technical conditions and measures

Handle substance within a predominantly closed system provided with extract ventilation.

(Effectiveness (of a measure): 90 %)

Organisational measures to prevent /limit releases, dispersion and exposure

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

2.7 Contributing scenario controlling worker exposure for: PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use) : Liquid, vapour pressure > 10 kPa

Frequency and duration of use

Remarks : Covers daily exposures up to 8 hours (unless stated differently).
: , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Provide extraction ventilation at points where emissions occur. (Effectiveness (of a measure): 90 %)

Organisational measures to prevent /limit releases, dispersion and exposure

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

2.8 Contributing scenario controlling worker exposure for: PROC10: Roller application or brushing

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use) : Liquid, vapour pressure > 10 kPa

Frequency and duration of use

Remarks : Covers daily exposures up to 8 hours (unless stated

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

differently).

: , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Provide extraction ventilation at points where emissions occur. (Effectiveness (of a measure): 90 %)

Organisational measures to prevent /limit releases, dispersion and exposure

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

2.9 Contributing scenario controlling worker exposure for: PROC15: Use as laboratory reagent

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use) : Liquid, vapour pressure > 10 kPa

Frequency and duration of use

Remarks : Covers daily exposures up to 8 hours (unless stated differently).
: , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of occupational hygiene is implemented.

Organisational measures to prevent /limit releases, dispersion and exposure

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

3. Exposure estimation and reference to its source

Environment

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment	Value	Level of Exposure	RCR
ERC4	EUSES	Process	Fresh water		0.082 mg/L	0.153

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

ERC4	EUSES	solvent Process solvent	Marine water	0.0082 mg/L	0.042
ERC4	EUSES	Process solvent	Fresh water sediment	0.149 mg/kg wet weight	0.153
ERC4	EUSES	Process solvent	Marine sediment	0.015 mg/kg wet weight	0.042
ERC4	EUSES	Process solvent	Soil	0.126 mg/kg dry weight	0.245
ERC4	EUSES	Process solvent	Groundwater	0.060 mg/L	0.111
ERC4	EUSES	Process solvent	Sewage treatment plant	0.776 mg/L	0.030
ERC4	EUSES	Extraction medium - large sites	Fresh water	11 µg/L	0.021
ERC4	EUSES	Extraction medium - large sites	Marine water	1.03 µg/L	0.005
ERC4	EUSES	Extraction medium - large sites	Fresh water sediment	0.020 mg/kg wet weight	0.021
ERC4	EUSES	Extraction medium - large sites	Marine sediment	0.002 mg/kg wet weight	0.005
ERC4	EUSES	Extraction medium - large sites	Soil	7.46 µg/kg wwt	0.245
ERC4	EUSES	Extraction medium - large sites	Groundwater	1.85 µg/L	0.003
ERC4	EUSES	Extraction medium - large sites	Sewage treatment plant	64 µg/L	0.0025
ERC4	EUSES	Extraction medium - small sites	Fresh water	0.185 mg/L	0.343
ERC4	EUSES	Extraction medium - small sites	Marine water	0.018 mg/L	0.093
ERC4	EUSES	Extraction medium - small sites	Fresh water sediment	0.334 mg/kg wet weight	0.343
ERC4	EUSES	Extraction medium - small sites	Marine sediment	0.033 mg/kg wet weight	0.093
ERC4	EUSES	Extraction medium - small sites	Soil	0.211 mg/kg dry weight	0.411
ERC4	EUSES	Extraction medium - small sites	Groundwater	0.053 mg/L	0.098
ERC4	EUSES	Extraction	Sewage	1.81 mg/L	0.070

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

		medium - small sites	treatment plant		
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Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value	Level of Exposure	RCR
PROC1	ECETOC TRA v2.0 Worker		Chronic inhalation systemic exposure	0.01 ppm	0.0001
PROC1	ECETOC TRA v2.0 Worker		Chronic dermal systemic exposure	0.07 mg/kg/day	0.00001
PROC2	ECETOC TRA v2.0 Worker		Chronic inhalation systemic exposure	50 ppm	0.5
PROC2	ECETOC TRA v2.0 Worker		Chronic dermal systemic exposure	0.27 mg/kg/day	0.00006
PROC3	ECETOC TRA v2.0 Worker		Chronic inhalation systemic exposure	10 ppm	0.1
PROC3	ECETOC TRA v2.0 Worker		Chronic dermal systemic exposure	0.07 mg/kg/day	0.00001
PROC4	ECETOC TRA v2.0 Worker		Chronic inhalation systemic exposure	10 ppm	0.1
PROC4	ECETOC TRA v2.0 Worker		Chronic dermal systemic exposure	1.37 mg/kg/day	0.0003
PROC10	ECETOC TRA v2.0 Worker		Chronic inhalation systemic exposure	25 ppm	0.25
PROC10	ECETOC TRA v2.0 Worker		Chronic dermal systemic exposure	5.49 mg/kg/day	0.001
PROC15	ECETOC TRA v2.0 Worker		Chronic inhalation systemic exposure	50 ppm	0.5
PROC15	ECETOC TRA v2.0 Worker		Chronic dermal	0.07 mg/kg/day	0.00001

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

			systemic exposure		
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ERC4: Industrial use of processing aids in processes and products, not becoming part of articles

PROC1: Use in closed process, no likelihood of exposure

PROC10: Roller application or brushing

PROC15: Use as laboratory reagent

PROC2: Use in closed, continuous process with occasional controlled exposure

PROC3: Use in closed batch process (synthesis or formulation)

PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

1. Short title of Exposure Scenario: Use in Paints/ Coatings (industrial)

Main User Groups	: SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
Sectors of end-use	: SU11, SU18: Manufacture of rubber products, Manufacture of furniture
Environmental Release Categories	: ERC4: Industrial use of processing aids in processes and products, not becoming part of articles
Process categories	: PROC7: Industrial spraying PROC10: Roller application or brushing
Activity	: Use in coatings (paints, adhesives, sealants), industrial

2.1 Contributing scenario controlling environmental exposure for: ERC4: Industrial use of processing aids in processes and products, not becoming part of articles

Activity : Aerosols

Amount used

Daily amount per site : 10720 kg
Annual amount per site : 1072 tonnes

Environment factors not influenced by risk management

Flow rate : 18,000 m³/day

Other given operational conditions affecting environmental exposure

Continuous use/release

Number of emission days per year : 100

Emission or Release Factor: Air : 0.95 %

Emission or Release Factor: : 1 %

Water

Emission or Release Factor: Soil : 0 %

Remarks : Indoor use, Used in closed system

Technical conditions and measures / Organizational measures

Water : Ensure all waste water is collected and treated via a WWTP.

Soil : Soil emission controls are not applicable as there is no direct release to soil.

Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment Plant : Municipal sewage treatment plant

Flow rate of sewage treatment plant effluent : 2,000 m³/day

Percentage removed from waste water : 93.5 %

2.1 Contributing scenario controlling environmental exposure for: ERC4: Industrial use of processing aids in processes and products, not becoming part of articles

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

Activity : Adhesives

Amount used

Daily amount per site : 6900 kg
Annual amount per site : 2070 tonnes

Environment factors not influenced by risk management

Flow rate : 18,000 m³/day

Other given operational conditions affecting environmental exposure

Continuous use/release

Number of emission days per year : 300

Emission or Release Factor: Air : 0.006 %

Emission or Release Factor: : 0 %

Water

Emission or Release Factor: Soil : 0 %

Remarks : Indoor use, Used in closed system

Technical conditions and measures / Organizational measures

Water : Ensure all waste water is collected and treated via a WWTP.

Soil : Soil emission controls are not applicable as there is no direct release to soil.

Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment Plant : Municipal sewage treatment plant

Flow rate of sewage treatment plant effluent : 2,000 m³/day

Percentage removed from waste water : 93.5 %

2.3 Contributing scenario controlling worker exposure for: PROC7: Industrial spraying

Activity : Aerosols, Paint/coatings

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100 % (unless stated differently).

Physical Form (at time of use) : Liquid, vapour pressure > 10 kPa

Frequency and duration of use

Remarks : Covers daily exposures up to 8 hours (unless stated differently).

: , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Carry out in a vented booth provided with laminar airflow. (Effectiveness (of a measure): 95 %)

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

Organisational measures to prevent /limit releases, dispersion and exposure

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

2.4 Contributing scenario controlling worker exposure for: PROC7: Industrial spraying

Activity	: Aerosols, Mould release agents
Product characteristics	
Concentration of the Substance in Mixture/Article	: Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use)	: Liquid, vapour pressure > 10 kPa
Frequency and duration of use	
Remarks	: Covers daily exposures up to 8 hours (unless stated differently).
	: , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Carry out in a vented booth provided with laminar airflow. (Effectiveness (of a measure): 95 %)

Organisational measures to prevent /limit releases, dispersion and exposure

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

2.5 Contributing scenario controlling worker exposure for: PROC10: Roller application or brushing

Activity	: Adhesives, sealants
Product characteristics	
Concentration of the Substance in Mixture/Article	: Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use)	: Liquid, vapour pressure > 10 kPa
Frequency and duration of use	
Remarks	: Covers daily exposures up to 8 hours (unless stated differently).
	: , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

occupational hygiene is implemented.

Technical conditions and measures

Provide extraction ventilation at points where emissions occur. (Effectiveness (of a measure): 90 %)

Organisational measures to prevent /limit releases, dispersion and exposure

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

3. Exposure estimation and reference to its source

Environment

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment	Value	Level of Exposure	RCR
ERC4	EUSES	Aerosol	Fresh water		4.96 µg/L	0.0092
ERC4	EUSES	Aerosol	Marine water		0.40 µg/L	0.0021
ERC4	EUSES	Aerosol	Fresh water sediment		8.93 µg/kg wwt	0.0092
ERC4	EUSES	Aerosol	Marine sediment		0.72 µg/kg wwt	0.0021
ERC4	EUSES	Aerosol	Soil		0.045 mg/kg dry weight	0.087
ERC4	EUSES	Aerosol	Groundwater		0.047 mg/L	0.087
ERC4	EUSES	Aerosol	Sewage treatment plant		1.06 µg/L	0.00004
ERC4	EUSES	Adhesives	Fresh water		4.85 µg/L	0.153
ERC4	EUSES	Adhesives	Marine water		0.39 µg/L	0.042
ERC4	EUSES	Adhesives	Fresh water sediment		8.74 µg/kg wwt	0.153
ERC4	EUSES	Adhesives	Marine sediment		0.702 µg/kg wwt	0.042
ERC4	EUSES	Adhesives	Soil		2.05	0.004
ERC4	EUSES	Adhesives	Groundwater		2.15 µg/L	0.004
ERC4	EUSES	Adhesives	Sewage treatment plant		0 mg/L	0

Workers

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value	Level of Exposure	RCR
PROC7	ECETOC TRA v2.0 Worker		Chronic inhalation systemic exposure	25 ppm	0.25
PROC7	ECETOC TRA v2.0 Worker		Chronic dermal systemic exposure	8.57 mg/kg/day	0.002
PROC7	ECETOC TRA v2.0 Worker		Chronic inhalation systemic exposure	25 ppm	0.25
PROC7	ECETOC TRA v2.0 Worker		Chronic dermal systemic exposure	8.57 mg/kg/day	0.002
PROC10	ECETOC TRA v2.0 Worker		Chronic inhalation systemic exposure	25 ppm	0.25
PROC10	ECETOC TRA v2.0 Worker		Chronic dermal systemic exposure	5.49 mg/kg/day	0.001

ERC4: Industrial use of processing aids in processes and products, not becoming part of articles

PROC10: Roller application or brushing

PROC7: Industrial spraying

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

1. Short title of Exposure Scenario: Use in cleaning agents

Main User Groups	: SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
Sectors of end-use	: SU5, SU7, SU12, SU13, SU17: Manufacture of textiles, leather, fur, Printing and reproduction of recorded media, Manufacture of plastics products, including compounding and conversion, Manufacture of other non-metallic mineral products, e.g. plasters, cement, General manufacturing, e.g. machinery, equipment, vehicles, other transport equipment
Environmental Release Categories	: ERC4, ERC7: Industrial use of processing aids in processes and products, not becoming part of articles, Industrial use of substances in closed systems
Process categories	: PROC0: Other Process or activity PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Use in closed batch process (synthesis or formulation) PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC7: Industrial spraying PROC10: Roller application or brushing PROC13: Treatment of articles by dipping and pouring

2.1 Contributing scenario controlling environmental exposure for: ERC4: Industrial use of processing aids in processes and products, not becoming part of articles

Activity	: Aerosols, Metal degreasers
Amount used	
Daily amount per site	: 59000 kg
Annual amount per site	: 1180 tonnes
Environment factors not influenced by risk management	
Flow rate	: 18,000 m ³ /day
Other given operational conditions affecting environmental exposure	
Continuous use/release	
Number of emission days per year	: 20
Emission or Release Factor: Air	: 0.3 %
Emission or Release Factor: Water	: 0.0001 %
Emission or Release Factor: Soil	: 0 %
Remarks	: Indoor use, Used in closed system

Technical conditions and measures / Organizational measures

Air	: No air emission controls required; required removal efficiency is 0%.
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METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

Water : Ensure all waste water is collected and treated via a WWTP., Prevent discharge of undissolved substance to or recover from wastewater.

Soil : Soil emission controls are not applicable as there is no direct release to soil.

Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment Plant : Municipal sewage treatment plant

Flow rate of sewage treatment plant effluent : 2,000 m3/day

Percentage removed from waste water : 93.5 %

2.1 Contributing scenario controlling environmental exposure for: ERC4: Industrial use of processing aids in processes and products, not becoming part of articles

Activity : Paint strippers

Amount used

Daily amount per site : 140500 kg

Annual amount per site : 2810 tonnes

Environment factors not influenced by risk management

Flow rate : 18,000 m3/day

Other given operational conditions affecting environmental exposure

Continuous use/release

Number of emission days per year : 20

Emission or Release Factor: Air : 0.3 %

Emission or Release Factor: Water : 0.0001 %

Emission or Release Factor: Soil : 0 %

Remarks : Used in closed system

Technical conditions and measures / Organizational measures

Air : No air emission controls required; required removal efficiency is 0%.

Water : Ensure all waste water is collected and treated via a WWTP., Prevent discharge of undissolved substance to or recover from wastewater.

Soil : Soil emission controls are not applicable as there is no direct release to soil.

Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment Plant : Municipal sewage treatment plant

Flow rate of sewage treatment plant effluent : 2,000 m3/day

Percentage removed from waste water : 93.5 %

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

2.1 Contributing scenario controlling environmental exposure for: ERC7: Industrial use of substances in closed systems

Activity : Cleaning agent / functional fluid

Amount used

Daily amount per site : 10720 kg

Annual amount per site : 1072 tonnes

Environment factors not influenced by risk management

Flow rate : 18,000 m³/day

Other given operational conditions affecting environmental exposure

Continuous use/release

Number of emission days per year : 20

Emission or Release Factor: Air : 0.01 %

Emission or Release Factor: : 0.001 %

Water

Emission or Release Factor: Soil : 0.001 %

Remarks : Used in closed system

Technical conditions and measures / Organizational measures

Air : No air emission controls required; required removal efficiency is 0%.

Water : Ensure all waste water is collected and treated via a WWTP., Prevent discharge of undissolved substance to or recover from wastewater.

Soil : Soil emission controls are not applicable as there is no direct release to soil.

Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment Plant : Municipal sewage treatment plant

Flow rate of sewage treatment plant effluent : 2,000 m³/day

Percentage removed from waste water : 93.5 %

2.4 Contributing scenario controlling worker exposure for: PROC2: Use in closed, continuous process with occasional controlled exposure

Activity : Industrial surface cleaning, metal cleaning (vapour degreasing)

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100 % (unless stated differently).

Physical Form (at time of use) : Liquid, vapour pressure > 10 kPa

Frequency and duration of use

Remarks : Covers daily exposures up to 8 hours (unless stated differently).

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

: , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Handle substance within a closed system.

Organisational measures to prevent /limit releases, dispersion and exposure

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

2.5 Contributing scenario controlling worker exposure for: PROC3: Use in closed batch process (synthesis or formulation)

Activity	: Raw leather cleaning
Product characteristics	
Concentration of the Substance in Mixture/Article	: Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use)	: Liquid, vapour pressure > 10 kPa
Frequency and duration of use	
Remarks	: Covers daily exposures up to 8 hours (unless stated differently).
	: , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Handle substance within a predominantly closed system provided with extract ventilation. (Effectiveness (of a measure): 90 %)

Organisational measures to prevent /limit releases, dispersion and exposure

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

2.6 Contributing scenario controlling worker exposure for: PROC3: Use in closed batch process (synthesis or formulation)

Activity	: Cleaning agent
Product characteristics	

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use) : Liquid, vapour pressure > 10 kPa

Frequency and duration of use
Remarks : Covers daily exposures up to 8 hours (unless stated differently).
: , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Handle substance within a predominantly closed system provided with extract ventilation. (Effectiveness (of a measure): 90 %)

Organisational measures to prevent /limit releases, dispersion and exposure

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

2.7 Contributing scenario controlling worker exposure for: PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises

Activity : Cleaning agent
Product characteristics
Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use) : Liquid, vapour pressure > 10 kPa

Frequency and duration of use
Remarks : Covers daily exposures up to 8 hours (unless stated differently).
: , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Provide extraction ventilation at points where emissions occur. (Effectiveness (of a measure): 90 %)

Organisational measures to prevent /limit releases, dispersion and exposure

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

2.8 Contributing scenario controlling worker exposure for: PROC7: Industrial spraying

Activity	: Paint strippers
Product characteristics	
Concentration of the Substance in Mixture/Article	: Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use)	: Liquid, vapour pressure > 10 kPa
Frequency and duration of use	
Remarks	: Covers daily exposures up to 8 hours (unless stated differently).
	: , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of occupational hygiene is implemented.

Organisational measures to prevent /limit releases, dispersion and exposure

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

Wear a respirator conforming to EN140 with Type A filter or better. (Effectiveness (of a measure): 90 %)

2.9 Contributing scenario controlling worker exposure for: PROC10: Roller application or brushing

Activity	: Manual use as cleaning agent
Product characteristics	
Concentration of the Substance in Mixture/Article	: Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use)	: Liquid, vapour pressure > 10 kPa
Frequency and duration of use	
Remarks	: Covers daily exposures up to 8 hours (unless stated differently).
	: , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Provide extraction ventilation at points where emissions occur. (Effectiveness (of a measure): 90 %)

Organisational measures to prevent /limit releases, dispersion and exposure

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

2.10 Contributing scenario controlling worker exposure for: PROC13: Treatment of articles by dipping and pouring

Activity	: Paint stripping / Metal cleaning
Product characteristics	
Concentration of the Substance in Mixture/Article	: Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use)	: Liquid, vapour pressure > 10 kPa
Frequency and duration of use	
Remarks	: Covers daily exposures up to 8 hours (unless stated differently).
	: , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Provide extraction ventilation at points where emissions occur. (Effectiveness (of a measure): 90 %)

Organisational measures to prevent /limit releases, dispersion and exposure

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

2.11 Contributing scenario controlling worker exposure for: PROC13: Treatment of articles by dipping and pouring

Activity	: Paint stripping / Metal cleaning
Product characteristics	
Concentration of the Substance in Mixture/Article	: Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use)	: Liquid, vapour pressure > 10 kPa
	: , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of occupational hygiene is implemented.

Organisational measures to prevent /limit releases, dispersion and exposure

Avoid carrying out operation for more than 1 hour., Avoid direct skin contact with product.

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.

Conditions and measures related to personal protection, hygiene and health evaluation
Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

3. Exposure estimation and reference to its source

Environment

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment	Value	Level of Exposure	RCR
ERC4	EUSES	Metal degreasers	Fresh water		6.40 µg/L	0.012
ERC4	EUSES	Metal degreasers	Marine water		0.544 µg/L	0.0028
ERC4	EUSES	Metal degreasers	Fresh water sediment		12 µg/kg wwt	0.012
ERC4	EUSES	Metal degreasers	Marine sediment		0.980 µg/kg wwt	0.0028
ERC4	EUSES	Metal degreasers	Soil		2.81 µg/kg wwt	0.00546
ERC4	EUSES	Metal degreasers	Groundwater		1.51 µg/L	0.00278
ERC4	EUSES	Metal degreasers	Sewage treatment plant		16 µg/L	0.00062
ERC4	EUSES	Paint strippers	Fresh water		6.42 µg/L	0.012
ERC4	EUSES	Paint strippers	Marine water		0.564 µg/L	0.0028
ERC4	EUSES	Paint strippers	Fresh water sediment		12 µg/kg wwt	0.012
ERC4	EUSES	Paint strippers	Marine sediment		0.983 µg/kg wwt	0.0028
ERC4	EUSES	Paint strippers	Soil		2.85 µg/kg wwt	0.00553
ERC4	EUSES	Paint strippers	Groundwater		1.52 µg/L	0.00281
ERC4	EUSES	Paint strippers	Sewage treatment plant		16 µg/L	0.00062
ERC7	EUSES		Fresh water		6.52 µg/L	0.012
ERC7	EUSES		Marine water		0.556 µg/L	0.0029
ERC7	EUSES		Fresh water sediment		12.1 µg/kg wwt	0.012
ERC7	EUSES		Marine sediment		1.00 µg/kg wwt	0.0029
ERC7	EUSES		Soil		1.86 µg/kg	0.00361

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

				wwt	
ERC7	EUSES		Groundwater	0.396 µg/L	0.00733
ERC7	EUSES		Sewage treatment plant	17 µg/L	0.00066

Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value	Level of Exposure	RCR
PROC2	ECETOC TRA v2.0 Worker		Chronic inhalation systemic exposure	50 ppm	0.5
PROC2	ECETOC TRA v2.0 Worker		Chronic dermal systemic exposure	1.37 mg/kg/day	0.00006
PROC3	ECETOC TRA v2.0 Worker		Chronic inhalation systemic exposure	10 ppm	0.1
PROC3	ECETOC TRA v2.0 Worker		Chronic dermal systemic exposure	0.34 mg/kg/day	0.00001
PROC3	ECETOC TRA v2.0 Worker		Chronic inhalation systemic exposure	10 ppm	0.1
PROC3	ECETOC TRA v2.0 Worker		Chronic dermal systemic exposure	0.34 mg/kg/day	0.00001
PROC4	ECETOC TRA v2.0 Worker		Chronic inhalation systemic exposure	10 ppm	0.1
PROC4	ECETOC TRA v2.0 Worker		Chronic dermal systemic exposure	1.37 mg/kg/day	0.0003
PROC7	ECETOC TRA v2.0 Worker		Chronic inhalation systemic exposure	50 ppm	0.5
PROC7	ECETOC TRA v2.0 Worker		Chronic dermal systemic exposure	42.86 mg/kg/day	0.002
PROC10	ECETOC TRA v2.0 Worker		Chronic inhalation	25 ppm	0.25

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

			systemic exposure		
PROC10	ECETOC TRA v2.0 Worker		Chronic dermal systemic exposure	27.43 mg/kg/day	0.001
PROC13	ECETOC TRA v2.0 Worker		Chronic inhalation systemic exposure	25 ppm	0.25
PROC13	ECETOC TRA v2.0 Worker		Chronic dermal systemic exposure	13.71 mg/kg/day	0.0006
PROC10	ECETOC TRA v2.0 Worker		Chronic inhalation systemic exposure	50 ppm	0.5
PROC10	ECETOC TRA v2.0 Worker		Chronic dermal systemic exposure	13.71 mg/kg/day	0.0006

ERC4: Industrial use of processing aids in processes and products, not becoming part of articles

ERC7: Industrial use of substances in closed systems

PROC10: Roller application or brushing

PROC13: Treatment of articles by dipping and pouring

PROC2: Use in closed, continuous process with occasional controlled exposure

PROC3: Use in closed batch process (synthesis or formulation)

PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises

PROC7: Industrial spraying

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

1. Short title of Exposure Scenario: Use of blowing agents in manufacture of foam

Main User Groups	: SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
Sectors of end-use	: SU 3: Industrial Manufacturing (all)
Environmental Release Categories	: ERC4: Industrial use of processing aids in processes and products, not becoming part of articles
Process categories	: PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Use in closed batch process (synthesis or formulation) PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC8b: Transfer of substance or preparation (charging/discharging) from/ to vessels/ large containers at dedicated facilities PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing) PROC12: Use of blowing agents in manufacture of foam

2.1 Contributing scenario controlling environmental exposure for: ERC4: Industrial use of processing aids in processes and products, not becoming part of articles

Amount used

Daily amount per site	: 3183 kg
Annual amount per site	: 955 tonnes

Environment factors not influenced by risk management

Flow rate	: 18,000 m ³ /day
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Other given operational conditions affecting environmental exposure

Continuous use/release

Number of emission days per year	: 300
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Emission or Release Factor: Air : 1 %

Emission or Release Factor: : 0.001 %

Water

Emission or Release Factor: Soil : 0 %

Remarks : Used in closed system

Technical conditions and measures / Organizational measures

Air : No air emission controls required; required removal efficiency is 0%.

Water : Ensure all waste water is collected and treated via a WWTP., Prevent discharge of undissolved substance to or recover from wastewater.

Soil : No soil emission controls required.

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment Plant : Municipal sewage treatment plant
Flow rate of sewage treatment plant effluent : 2,000 m³/day
Percentage removed from waste water : 93.5 %

2.2 Contributing scenario controlling worker exposure for: PROC1: Use in closed process, no likelihood of exposure

Activity : Surface treatment
Product characteristics
Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 25 %.
Physical Form (at time of use) : Liquid, vapour pressure > 10 kPa
Frequency and duration of use
Remarks : Covers daily exposures up to 8 hours (unless stated differently).
: , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Handle substance within a closed system.

Organisational measures to prevent /limit releases, dispersion and exposure

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

2.3 Contributing scenario controlling worker exposure for: PROC2: Use in closed, continuous process with occasional controlled exposure

Activity : Surface treatment
Product characteristics
Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 25 %.
Physical Form (at time of use) : Liquid, vapour pressure > 10 kPa
Frequency and duration of use
Remarks : Covers daily exposures up to 8 hours (unless stated differently).
: , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of occupational hygiene is implemented.

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

Technical conditions and measures

Handle substance within a closed system.

Organisational measures to prevent /limit releases, dispersion and exposure

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

2.4 Contributing scenario controlling worker exposure for: PROC3: Use in closed batch process (synthesis or formulation)

Activity	: Cleaning
Product characteristics	
Concentration of the Substance in Mixture/Article	: Covers the percentage of the substance in the product up to 25 %.
Physical Form (at time of use)	: Liquid, vapour pressure > 10 kPa
Frequency and duration of use	
Remarks	: Covers daily exposures up to 8 hours (unless stated differently).
	: , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Handle substance within a closed system.

Organisational measures to prevent /limit releases, dispersion and exposure

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

2.5 Contributing scenario controlling worker exposure for: PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises

Activity	: Cleaning agent
Product characteristics	
Concentration of the Substance in Mixture/Article	: Covers the percentage of the substance in the product up to 25 %.
Physical Form (at time of use)	: Liquid, vapour pressure > 10 kPa
Frequency and duration of use	

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

- Remarks** : Covers daily exposures up to 8 hours (unless stated differently).
- : , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of occupational hygiene is implemented.

Organisational measures to prevent /limit releases, dispersion and exposure

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

2.6 Contributing scenario controlling worker exposure for: PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities

- Activity** : Cleaning agent
- Product characteristics**
- Concentration of the Substance in Mixture/Article** : Covers the percentage of the substance in the product up to 25 %.
- Physical Form (at time of use)** : Liquid, vapour pressure > 10 kPa
- Frequency and duration of use**
- Remarks** : Covers daily exposures up to 8 hours (unless stated differently).
- : , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of occupational hygiene is implemented.

Organisational measures to prevent /limit releases, dispersion and exposure

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

2.7 Contributing scenario controlling worker exposure for: PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)

- Activity** : Cleaning agent
- Product characteristics**
- Concentration of the Substance in Mixture/Article** : Covers the percentage of the substance in the product up to 25 %.
- Physical Form (at time of use)** : Liquid, vapour pressure > 10 kPa

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

Frequency and duration of use

- Remarks : Covers daily exposures up to 8 hours (unless stated differently).
- : , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Provide extraction ventilation at points where emissions occur. (Effectiveness (of a measure): 90 %)

Organisational measures to prevent /limit releases, dispersion and exposure

Limit the substance content in the product to 25 %, Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

2.8 Contributing scenario controlling worker exposure for: PROC12: Use of blowing agents in manufacture of foam

- Activity : Cleaning agent
- Product characteristics
- Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 25 %.
- Physical Form (at time of use) : Liquid, vapour pressure > 10 kPa

Frequency and duration of use

- Remarks : Covers daily exposures up to 8 hours (unless stated differently).
- : , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of occupational hygiene is implemented.

Organisational measures to prevent /limit releases, dispersion and exposure

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

3. Exposure estimation and reference to its source

Environment

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment	Value	Level of Exposure	RCR
ERC4	EUSES		Fresh water		15 µg/L	0.028
ERC4	EUSES		Marine water		1.42 µg/L	0.0073
ERC4	EUSES		Fresh water sediment		27 µg/kg wwt	0.028
ERC4	EUSES		Marine sediment		2.56 µg/kg wwt	0.0073
ERC4	EUSES		Soil		0.048 mg/kg dry weight	0.093
ERC4	EUSES		Groundwater		0.040 mg/L	0.748
ERC4	EUSES		Sewage treatment plant		0.103 µg/L	0.00398

Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value	Level of Exposure	RCR
PROC1	ECETOC TRA v2.0 Worker		Chronic inhalation systemic exposure	0.01 ppm	0.0001
PROC1	ECETOC TRA v2.0 Worker		Chronic dermal systemic exposure	0.04 mg/kg/day	0.00001
PROC2	ECETOC TRA v2.0 Worker		Chronic inhalation systemic exposure	30 ppm	0.3
PROC2	ECETOC TRA v2.0 Worker		Chronic dermal systemic exposure	0.16 mg/kg/day	0.00003
PROC3	ECETOC TRA v2.0 Worker		Chronic inhalation systemic exposure	60 ppm	0.6
PROC3	ECETOC TRA v2.0 Worker		Chronic dermal systemic exposure	0.04 mg/kg/day	0.00001
PROC4	ECETOC TRA v2.0 Worker		Chronic inhalation systemic exposure	60 ppm	0.6
PROC4	ECETOC TRA v2.0 Worker		Chronic dermal	0.82 mg/kg/day	0.0002

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

			systemic exposure		
PROC8b	ECETOC TRA v2.0 Worker		Chronic inhalation systemic exposure	90 ppm	0.9
PROC8b	ECETOC TRA v2.0 Worker		Chronic dermal systemic exposure	0.82 mg/kg/day	0.0002
PROC9	ECETOC TRA v2.0 Worker		Chronic inhalation systemic exposure	12 ppm	0.12
PROC9	ECETOC TRA v2.0 Worker		Chronic dermal systemic exposure	0.82 mg/kg/day	0.0002
PROC12	ECETOC TRA v2.0 Worker		Chronic inhalation systemic exposure	60 ppm	0.6
PROC12	ECETOC TRA v2.0 Worker		Chronic dermal systemic exposure	0.04 mg/kg/day	0.00001

ERC4: Industrial use of processing aids in processes and products, not becoming part of articles

PROC1: Use in closed process, no likelihood of exposure

PROC12: Use of blowing agents in manufacture of foam

PROC2: Use in closed, continuous process with occasional controlled exposure

PROC3: Use in closed batch process (synthesis or formulation)

PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises

PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities

PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

1. Short title of Exposure Scenario: Use in/as functional fluids (industrial)

Main User Groups : SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
Sectors of end-use : SU 3: Industrial Manufacturing (all)
Environmental Release Categories : ERC7: Industrial use of substances in closed systems
Process categories : PROC1: Use in closed process, no likelihood of exposure
PROC2: Use in closed, continuous process with occasional controlled exposure
PROC3: Use in closed batch process (synthesis or formulation)
PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises

2.1 Contributing scenario controlling environmental exposure for: ERC7: Industrial use of substances in closed systems

Activity : Aerosols

Amount used

Daily amount per site : 500 kg
Annual amount per site : 10 tonnes

Environment factors not influenced by risk management

Flow rate : 18,000 m³/day

Other given operational conditions affecting environmental exposure

Continuous use/release

Number of emission days per year : 20

Emission or Release Factor: Air : 0.01 %

Emission or Release Factor: : 0.001 %

Water

Emission or Release Factor: Soil : 0.001 %

Remarks : Used in closed system

Technical conditions and measures / Organizational measures

Air : No air emission controls required; required removal efficiency is 0%.

Water : Ensure all waste water is collected and treated via a WWTP., Prevent discharge of undissolved substance to or recover from wastewater.

Soil : No soil emission controls required.

Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment Plant : Municipal sewage treatment plant

Flow rate of sewage treatment plant effluent : 2,000 m³/day

Percentage removed from waste : 93.5 %

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

water

2.2 Contributing scenario controlling worker exposure for: PROC1: Use in closed process, no likelihood of exposure

Activity	: Surface treatment
Product characteristics	
Concentration of the Substance in Mixture/Article	: Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use)	: Liquid, vapour pressure > 10 kPa
Frequency and duration of use	
Remarks	: Covers daily exposures up to 8 hours (unless stated differently).
	: , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Handle substance within a closed system.

Organisational measures to prevent /limit releases, dispersion and exposure

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

2.3 Contributing scenario controlling worker exposure for: PROC2: Use in closed, continuous process with occasional controlled exposure

Activity	: Surface treatment
Product characteristics	
Concentration of the Substance in Mixture/Article	: Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use)	: Liquid, vapour pressure > 10 kPa
Frequency and duration of use	
Remarks	: Covers daily exposures up to 8 hours (unless stated differently).
	: , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Handle substance within a closed system.

Organisational measures to prevent /limit releases, dispersion and exposure

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

2.4 Contributing scenario controlling worker exposure for: PROC3: Use in closed batch process (synthesis or formulation)

Activity	: Cleaning
Product characteristics	
Concentration of the Substance in Mixture/Article	: Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use)	: Liquid, vapour pressure > 10 kPa
Frequency and duration of use	
Remarks	: Covers daily exposures up to 8 hours (unless stated differently).
	: , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Handle substance within a predominantly closed system provided with extract ventilation. (Effectiveness (of a measure): 90 %)

Organisational measures to prevent /limit releases, dispersion and exposure

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

2.5 Contributing scenario controlling worker exposure for: PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises

Activity	: Cleaning agent
Product characteristics	
Concentration of the Substance in Mixture/Article	: Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use)	: Liquid, vapour pressure > 10 kPa
Frequency and duration of use	
Remarks	: Covers daily exposures up to 8 hours (unless stated differently).
	: , Assumes use at not more than 20°C above ambient

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

temperature., Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Provide extraction ventilation at points where emissions occur. (Effectiveness (of a measure): 90 %)

Organisational measures to prevent /limit releases, dispersion and exposure

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

3. Exposure estimation and reference to its source

Environment

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment	Value	Level of Exposure	RCR
ERC7	EUSES		Fresh water		6.52 µg/L	0.012
ERC7	EUSES		Marine water		0.556 µg/L	0.0029
ERC7	EUSES		Fresh water sediment		12.1 µg/kg wwt	0.012
ERC7	EUSES		Marine sediment		1.00 µg/kg wwt	0.0029
ERC7	EUSES		Soil		1.86 µg/kg wwt	0.00361
ERC7	EUSES		Groundwater		0.396 µg/L	0.00733
ERC7	EUSES		Sewage treatment plant		17 µg/L	0.00066

Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value	Level of Exposure	RCR
PROC1	ECETOC TRA v2.0 Worker		Chronic inhalation systemic exposure	0.01 ppm	0.0001
PROC1	ECETOC TRA v2.0 Worker		Chronic dermal systemic exposure	0.07 mg/kg/day	0.00001
PROC2	ECETOC TRA		Chronic	50 ppm	0.5

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

	v2.0 Worker		inhalation systemic exposure		
PROC2	ECETOC TRA v2.0 Worker		Chronic dermal systemic exposure	0.27 mg/kg/day	0.00006
PROC3	ECETOC TRA v2.0 Worker		Chronic inhalation systemic exposure	10 ppm	0.1
PROC3	ECETOC TRA v2.0 Worker		Chronic dermal systemic exposure	0.07 mg/kg/day	0.00001
PROC4	ECETOC TRA v2.0 Worker		Chronic inhalation systemic exposure	10 ppm	0.1
PROC4	ECETOC TRA v2.0 Worker		Chronic dermal systemic exposure	1.37 mg/kg/day	0.0003

ERC7: Industrial use of substances in closed systems

PROC1: Use in closed process, no likelihood of exposure

PROC2: Use in closed, continuous process with occasional controlled exposure

PROC3: Use in closed batch process (synthesis or formulation)

PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

1. Short title of Exposure Scenario: Use in Paints/Coatings

Main User Groups	: SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Sectors of end-use	: SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Environmental Release Categories	: ERC8a, ERC8d: Wide dispersive indoor use of processing aids in open systems, Wide dispersive outdoor use of processing aids in open systems
Process categories	: PROC10: Roller application or brushing PROC11: Non industrial spraying

2.1 Contributing scenario controlling environmental exposure for: ERC8a, ERC8d: Wide dispersive indoor use of processing aids in open systems, Wide dispersive outdoor use of processing aids in open systems

Activity : Aerosols

Amount used

Daily amount per site : 6.14 kg
Annual amount per site : 2.24 tonnes

Environment factors not influenced by risk management

Flow rate : 18,000 m³/day

Other given operational conditions affecting environmental exposure

Dispersive use

Number of emission days per year : 365

Emission or Release Factor: Air : 1 %

Emission or Release Factor: : 1 %

Water

Emission or Release Factor: Soil : 0.01 %

Technical conditions and measures / Organizational measures

Air : No air emission controls required; required removal efficiency is 0%.

Water : Ensure all waste water is collected and treated via a WWTP., Prevent discharge of undissolved substance to or recover from wastewater.

Soil : No soil emission controls required.

Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment Plant : Municipal sewage treatment plant

Flow rate of sewage treatment plant effluent : 2,000 m³/day

Percentage removed from waste water : 93.5 %

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

2.1 Contributing scenario controlling environmental exposure for: ERC8a, ERC8d: Wide dispersive indoor use of processing aids in open systems, Wide dispersive outdoor use of processing aids in open systems

Activity : Adhesives

Amount used

Daily amount per site : 11.4 kg
Annual amount per site : 4.14 tonnes

Environment factors not influenced by risk management

Flow rate : 18,000 m³/day

Other given operational conditions affecting environmental exposure

Dispersive use

Number of emission days per year : 365
Emission or Release Factor: Air : 1 %
Emission or Release Factor: Water : 1 %
Emission or Release Factor: Soil : 0.01 %

Technical conditions and measures / Organizational measures

Air : No air emission controls required; required removal efficiency is 0%.
Water : Ensure all waste water is collected and treated via a WWTP., Prevent discharge of undissolved substance to or recover from wastewater.
Soil : No soil emission controls required.

Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment Plant : Municipal sewage treatment plant
Flow rate of sewage treatment plant effluent : 2,000 m³/day
Percentage removed from waste water : 93.5 %

2.3 Contributing scenario controlling worker exposure for: PROC10: Roller application or brushing

Activity : Paint/coatings, Indoor

Product characteristics

Concentration of the Substance in Mixture/Article : Limit the substance content in the mixture to 50 %.
Physical Form (at time of use) : Liquid, vapour pressure > 10 kPa

Frequency and duration of use

Remarks : Covers daily exposures up to 8 hours (unless stated differently).

Other operational conditions affecting workers exposure

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

Outdoor / Indoor : **Indoor**
: , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Provide extraction ventilation at points where emissions occur. (Effectiveness (of a measure): 90 %)

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

2.4 Contributing scenario controlling worker exposure for: PROC10: Roller application or brushing

Activity : **Paint/coatings, Outdoor**
Product characteristics
Concentration of the Substance in Mixture/Article : **Limit the substance content in the mixture to 50 %.**
Physical Form (at time of use) : **Liquid, vapour pressure > 10 kPa**
Frequency and duration of use
Remarks : **Covers daily exposures up to 8 hours (unless stated differently).**

Other operational conditions affecting workers exposure

Outdoor / Indoor : **Outdoor**
: , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Provide a good standard of general or controlled ventilation (5 to 15 air changes per hour). (Effectiveness (of a measure): 30 %)

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operation is undertaken outdoors., Avoid carrying out operation for more than 1 hour.

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

2.5 Contributing scenario controlling worker exposure for: PROC10: Roller application or brushing

Activity : **Adhesives, sealants, Indoor**
Product characteristics
Concentration of the Substance in Mixture/Article : **Limit the substance content in the mixture to 50 %.**
Physical Form (at time of use) : **Liquid, vapour pressure > 10 kPa**
Frequency and duration of use
Remarks : **Covers daily exposures up to 8 hours (unless stated**

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

differently).

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor
: , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Provide extraction ventilation at points where emissions occur. (Effectiveness (of a measure): 80 %)

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

2.6 Contributing scenario controlling worker exposure for: PROC11: Non industrial spraying

Activity : Paint/coatings, Aerosols, Indoor
Product characteristics
Concentration of the Substance : Limit the substance content in the mixture to 50 %.
in Mixture/Article
Physical Form (at time of use) : Liquid, vapour pressure > 10 kPa
Frequency and duration of use
Remarks : Covers daily exposures up to 8 hours (unless stated differently).

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor
: , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Provide extraction ventilation at points where emissions occur. (Effectiveness (of a measure): 80 %)

Organisational measures to prevent /limit releases, dispersion and exposure

Avoid carrying out operation for more than 4 hours.

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

2.7 Contributing scenario controlling worker exposure for: PROC11: Non industrial spraying

Activity : Paint/coatings, Aerosols, Outdoor
Product characteristics
Concentration of the Substance : Limit the substance content in the mixture to 50 %.
in Mixture/Article
Physical Form (at time of use) : Liquid, vapour pressure > 10 kPa

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

Frequency and duration of use

Remarks : Covers daily exposures up to 8 hours (unless stated differently).

Other operational conditions affecting workers exposure

Outdoor / Indoor : Outdoor
: , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Provide a good standard of general or controlled ventilation (5 to 15 air changes per hour).
(Effectiveness (of a measure): 30 %)

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operation is undertaken outdoors.

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

Wear a respirator conforming to EN140 with Type A filter or better. (Effectiveness (of a measure): 90 %)

3. Exposure estimation and reference to its source

Environment

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment	Value	Level of Exposure	RCR
ERC8a	EUSES		Fresh water		12 µg/L	0.022
ERC8a	EUSES		Marine water		1.15 µg/L	0.00593
ERC8a	EUSES		Fresh water sediment		22 µg/kg wwt	0.022
ERC8a	EUSES		Marine sediment		2.06 µg/kg wwt	0.00593
ERC8a	EUSES		Soil		8.40 µg/kg wwt	0.016
ERC8a	EUSES		Groundwater		1.74 µg/L	0.00322
ERC8a	EUSES		Sewage treatment plant		76 µg/L	0.00293
ERC8a	EUSES		Fresh water		19 µg/L	0.035
ERC8a	EUSES		Marine water		1.85 µg/L	0.00954
ERC8a	EUSES		Fresh water sediment		35 µg/kg wwt	0.035
ERC8a	EUSES		Marine sediment		3.33 µg/kg wwt	0.00954

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

ERC8a	EUSES		Soil		16 µg/kg wwt	0.00563
ERC8a	EUSES		Groundwater		3.35 µg/L	0.00619
ERC8a	EUSES		Sewage treatment plant		0.146 mg/L	0.00564

Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value	Level of Exposure	RCR
PROC10	ECETOC TRA v2.0 Worker	Indoor	Chronic inhalation systemic exposure	50 ppm	0.5
PROC10	ECETOC TRA v2.0 Worker	Indoor	Chronic dermal systemic exposure	2.74 mg/kg/day	0.001
PROC10	ECETOC TRA v2.0 Worker	Outdoor	Chronic inhalation systemic exposure	35 ppm	0.35
PROC10	ECETOC TRA v2.0 Worker	Outdoor	Chronic dermal systemic exposure	2.74 mg/kg/day	0.001
PROC10	ECETOC TRA v2.0 Worker	Indoor	Chronic inhalation systemic exposure	50 ppm	0.5
PROC10	ECETOC TRA v2.0 Worker	Indoor	Chronic dermal systemic exposure	2.74 mg/kg/day	0.001
PROC11	ECETOC TRA v2.0 Worker	Indoor	Chronic inhalation systemic exposure	60 ppm	0.6
PROC11	ECETOC TRA v2.0 Worker	Indoor	Chronic dermal systemic exposure	10.71 mg/kg/day	0.002
PROC11	ECETOC TRA v2.0 Worker	Indoor	Chronic inhalation systemic exposure	35 ppm	0.35
PROC11	ECETOC TRA v2.0 Worker	Indoor	Chronic dermal systemic exposure	10.71 mg/kg/day	0.002

ERC8a: Wide dispersive indoor use of processing aids in open systems

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

ERC8d: Wide dispersive outdoor use of processing aids in open systems

PROC10: Roller application or brushing

PROC11: Non industrial spraying

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

1. Short title of Exposure Scenario: Use in cleaning agents

Main User Groups	: SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Sectors of end-use	: SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Environmental Release Categories	: ERC8a, ERC8d: Wide dispersive indoor use of processing aids in open systems, Wide dispersive outdoor use of processing aids in open systems
Process categories	: PROC10: Roller application or brushing PROC11: Non industrial spraying PROC13: Treatment of articles by dipping and pouring

2.1 Contributing scenario controlling environmental exposure for: ERC8a, ERC8d: Wide dispersive indoor use of processing aids in open systems, Wide dispersive outdoor use of processing aids in open systems

Activity : Metal degreasers

Amount used

Daily amount per site : 6.47 kg
Annual amount per site : 2.36 tonnes

Environment factors not influenced by risk management

Flow rate : 18,000 m³/day

Other given operational conditions affecting environmental exposure

Dispersive use

Number of emission days per year : 365

Emission or Release Factor: Air : 1 %

Emission or Release Factor: : 1 %

Water

Emission or Release Factor: Soil : 0.01 %

Technical conditions and measures / Organizational measures

Air : No air emission controls required; required removal efficiency is 0%.

Water : Ensure all waste water is collected and treated via a WWTP., Prevent discharge of undissolved substance to or recover from wastewater.

Soil : No soil emission controls required.

Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment Plant : Municipal sewage treatment plant

Flow rate of sewage treatment plant effluent : 2,000 m³/day

Percentage removed from waste water : 93.5 %

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

2.1 Contributing scenario controlling environmental exposure for: ERC8a, ERC8d: Wide dispersive indoor use of processing aids in open systems, Wide dispersive outdoor use of processing aids in open systems

Activity : Paint strippers

Amount used

Daily amount per site : 15.4 kg
Annual amount per site : 5.62 tonnes

Environment factors not influenced by risk management

Flow rate : 18,000 m³/day

Other given operational conditions affecting environmental exposure

Dispersive use

Number of emission days per year : 365

Emission or Release Factor: Air : 1 %

Emission or Release Factor: : 1 %

Water

Emission or Release Factor: Soil : 0.01 %

Technical conditions and measures / Organizational measures

Air : No air emission controls required; required removal efficiency is 0%.

Water : Ensure all waste water is collected and treated via a WWTP., Prevent discharge of undissolved substance to or recover from wastewater.

Soil : No soil emission controls required.

Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment Plant : Municipal sewage treatment plant

Flow rate of sewage treatment plant effluent : 2,000 m³/day

Percentage removed from waste water : 93.5 %

2.3 Contributing scenario controlling worker exposure for: PROC10: Roller application or brushing

Activity : Cleaning agent, Indoor

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100 % (unless stated differently).

Physical Form (at time of use) : Liquid, vapour pressure > 10 kPa

Frequency and duration of use

Remarks : Covers daily exposures up to 8 hours (unless stated differently).

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor
: , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of occupational hygiene is implemented.

Organisational measures to prevent /limit releases, dispersion and exposure

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

Wear a respirator conforming to EN140 with Type A filter or better. (Effectiveness (of a measure): 90 %)

2.4 Contributing scenario controlling worker exposure for: PROC10: Roller application or brushing

Activity : Cleaning agent, Outdoor
Product characteristics
Concentration of the Substance : Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use) : Liquid, vapour pressure > 10 kPa
Frequency and duration of use
Remarks : Covers daily exposures up to 8 hours (unless stated differently).

Other operational conditions affecting workers exposure

Outdoor / Indoor : Outdoor
: , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of occupational hygiene is implemented.

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operation is undertaken outdoors., Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

Wear a respirator conforming to EN140 with Type A filter or better. (Effectiveness (of a measure): 90 %)

2.5 Contributing scenario controlling worker exposure for: PROC10: Roller application or brushing

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

Activity : Paint stripper & graffiti remover, Indoor
Product characteristics
Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use) : Liquid, vapour pressure > 10 kPa

Frequency and duration of use
Remarks : Covers daily exposures up to 8 hours (unless stated differently).

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor
: , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of occupational hygiene is implemented.

Organisational measures to prevent /limit releases, dispersion and exposure

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)
Wear a respirator conforming to EN140 with Type A filter or better. (Effectiveness (of a measure): 90 %)

2.6 Contributing scenario controlling worker exposure for: PROC10: Roller application or brushing

Activity : Paint stripper & graffiti remover, Outdoor
Product characteristics
Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use) : Liquid, vapour pressure > 10 kPa

Frequency and duration of use
Remarks : Covers daily exposures up to 8 hours (unless stated differently).

Other operational conditions affecting workers exposure

Outdoor / Indoor : Outdoor
: , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of occupational hygiene is implemented.

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operation is undertaken outdoors., Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

Wear a respirator conforming to EN140 with Type A filter or better. (Effectiveness (of a measure): 90 %)

2.7 Contributing scenario controlling worker exposure for: PROC11: Non industrial spraying

Activity	: Paint stripper & graffiti remover, Indoor
Product characteristics	
Concentration of the Substance in Mixture/Article	: Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use)	: Liquid, vapour pressure > 10 kPa
Frequency and duration of use	
Remarks	: Covers daily exposures up to 8 hours (unless stated differently).
Other operational conditions affecting workers exposure	
Outdoor / Indoor	: Indoor
	: , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of occupational hygiene is implemented.

Organisational measures to prevent /limit releases, dispersion and exposure

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

Wear a full face respirator conforming to EN140 with Type A filter or better. (Effectiveness (of a measure): 95 %)

2.8 Contributing scenario controlling worker exposure for: PROC11: Non industrial spraying

Activity	: Paint stripper & graffiti remover, Outdoor
Product characteristics	
Concentration of the Substance in Mixture/Article	: Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use)	: Liquid, vapour pressure > 10 kPa
Frequency and duration of use	
Remarks	: Covers daily exposures up to 8 hours (unless stated differently).
Other operational conditions affecting workers exposure	

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

Outdoor / Indoor : **Outdoor**
: , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of occupational hygiene is implemented.

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operation is undertaken outdoors., Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

Wear a full face respirator conforming to EN140 with Type A filter or better. (Effectiveness (of a measure): 95 %)

2.9 Contributing scenario controlling worker exposure for: PROC11: Non industrial spraying

Activity : Degreasing agent, Aerosols, Indoor
Product characteristics
Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use) : Liquid, vapour pressure > 10 kPa
Frequency and duration of use
Remarks : Covers daily exposures up to 8 hours (unless stated differently).
Other operational conditions affecting workers exposure
Outdoor / Indoor : **Indoor**
: , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of occupational hygiene is implemented.

Organisational measures to prevent /limit releases, dispersion and exposure

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

Wear a full face respirator conforming to EN140 with Type A filter or better. (Effectiveness (of a measure): 95 %)

2.10 Contributing scenario controlling worker exposure for: PROC11: Non industrial spraying

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

Activity : Degreasing agent, Aerosols, Outdoor
Product characteristics
Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use) : Liquid, vapour pressure > 10 kPa

Frequency and duration of use
Remarks : Covers daily exposures up to 8 hours (unless stated differently).

Other operational conditions affecting workers exposure
Outdoor / Indoor : Outdoor
: , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of occupational hygiene is implemented.

Organisational measures to prevent /limit releases, dispersion and exposure
Ensure operation is undertaken outdoors., Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.

Conditions and measures related to personal protection, hygiene and health evaluation
Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)
Wear a full face respirator conforming to EN140 with Type A filter or better. (Effectiveness (of a measure): 95 %)

2.11 Contributing scenario controlling worker exposure for: PROC11.; Non industrial spraying, Option 1

Activity : Paint strippers
Product characteristics
Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use) : Liquid, vapour pressure > 10 kPa

Frequency and duration of use
Remarks : Covers daily exposures up to 8 hours (unless stated differently).
: , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures
Provide extraction ventilation at points where emissions occur. (Effectiveness (of a measure): 80 %)

Organisational measures to prevent /limit releases, dispersion and exposure
Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

training to prevent / minimise exposures and to report any skin problems that may develop.

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

2.12 Contributing scenario controlling worker exposure for: PROC11.; Non industrial spraying, Option 2

Activity	: Paint strippers
Product characteristics	
Concentration of the Substance in Mixture/Article	: Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use)	: Liquid, vapour pressure > 10 kPa
Frequency and duration of use	
Remarks	: Covers daily exposures up to 8 hours (unless stated differently).
	: , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of occupational hygiene is implemented.

Organisational measures to prevent /limit releases, dispersion and exposure

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

Wear a respirator conforming to EN140 with Type A filter or better. (Effectiveness (of a measure): 90 %)

3. Exposure estimation and reference to its source

Environment

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment	Value	Level of Exposure	RCR
ERC8a	EUSES	Metal degreasers	Fresh water		13 µg/L	0.024
ERC8a	EUSES	Metal degreasers	Marine water		1.19 µg/L	0.00613
ERC8a	EUSES	Metal degreasers	Fresh water sediment		23 µg/kg wwt	0.024
ERC8a	EUSES	Metal degreasers	Marine sediment		2.14 µg/kg wwt	0.00613
ERC8a	EUSES	Metal degreasers	Soil		8.86 µg/kg wwt	0.017
ERC8a	EUSES	Metal	Groundwater		1.84 µg/L	0.00341

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

		degreasers	r			
ERC8a	EUSES	Metal degreasers	Sewage treatment plant		80 µg/L	0.00308
ERC8a	EUSES	Paint strippers	Fresh water		24 µg/L	0.044
ERC8a	EUSES	Paint strippers	Marine water		2.30 µg/L	0.012
ERC8a	EUSES	Paint strippers	Fresh water sediment		43 µg/kg wwt	0.044
ERC8a	EUSES	Paint strippers	Marine sediment		4.14 µg/kg wwt	0.012
ERC8a	EUSES	Paint strippers	Soil		21 µg/kg wwt	0.041
ERC8a	EUSES	Paint strippers	Groundwater		4.37 µg/L	0.00809
ERC8a	EUSES	Paint strippers	Sewage treatment plant		191 µg/L	0.00737

Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value	Level of Exposure	RCR
PROC10	ECETOC TRA v2.0 Worker	Indoor	Chronic inhalation systemic exposure	30 ppm	0.3
PROC10	ECETOC TRA v2.0 Worker	Indoor	Chronic dermal systemic exposure	5.49 mg/kg/day	0.001
PROC10	ECETOC TRA v2.0 Worker	Outdoor	Chronic inhalation systemic exposure	35 ppm	0.35
PROC10	ECETOC TRA v2.0 Worker	Outdoor	Chronic dermal systemic exposure	5.49 mg/kg/day	0.001
PROC10	ECETOC TRA v2.0 Worker	Indoor	Chronic inhalation systemic exposure	50 ppm	0.5
PROC10	ECETOC TRA v2.0 Worker	Indoor	Chronic dermal systemic exposure	5.49 mg/kg/day	0.001
PROC10	ECETOC TRA v2.0 Worker	Outdoor	Chronic inhalation systemic exposure	35 ppm	0.35
PROC10	ECETOC TRA v2.0 Worker	Outdoor	Chronic dermal systemic	5.49 mg/kg/day	0.001

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

PROC11	ECETOC TRA v2.0 Worker	Indoor	Chronic inhalation systemic exposure	50 ppm	0.5
PROC11	ECETOC TRA v2.0 Worker	Indoor	Chronic dermal systemic exposure	21.43 mg/kg/day	0.005
PROC11	ECETOC TRA v2.0 Worker	Outdoor	Chronic inhalation systemic exposure	35 ppm	0.35
PROC11	ECETOC TRA v2.0 Worker	Outdoor	Chronic dermal systemic exposure	21.43 mg/kg/day	0.005
PROC11	ECETOC TRA v2.0 Worker	Indoor	Chronic inhalation systemic exposure	50 ppm	0.5
PROC11	ECETOC TRA v2.0 Worker	Indoor	Chronic dermal systemic exposure	21.43 mg/kg/day	0.005
PROC11	ECETOC TRA v2.0 Worker	Outdoor	Chronic inhalation systemic exposure	35 ppm	0.35
PROC11	ECETOC TRA v2.0 Worker	Outdoor	Chronic dermal systemic exposure	21.43 mg/kg/day	0.005
PROC13	ECETOC TRA v2.0 Worker	Option 1	Chronic inhalation systemic exposure	50 ppm	0.5
PROC13	ECETOC TRA v2.0 Worker	Option 1	Chronic dermal systemic exposure	2.74 mg/kg/day	0.001
PROC13	ECETOC TRA v2.0 Worker	Option 2	Chronic inhalation systemic exposure	25 ppm	0.25
PROC13	ECETOC TRA v2.0 Worker	Option 2	Chronic dermal systemic exposure	2.74 mg/kg/day	0.001

ERC8a: Wide dispersive indoor use of processing aids in open systems
 ERC8d: Wide dispersive outdoor use of processing aids in open systems
 PROC10: Roller application or brushing
 PROC11: Non industrial spraying
 PROC13: Treatment of articles by dipping and pouring

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

1. Short title of Exposure Scenario: Use in cosmetics

Main User Groups : SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Sectors of end-use : SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Environmental Release Categories : ERC8a, ERC8d: Wide dispersive indoor use of processing aids in open systems, Wide dispersive outdoor use of processing aids in open systems

2.1 Contributing scenario controlling environmental exposure for: ERC8a, ERC8d: Wide dispersive indoor use of processing aids in open systems, Wide dispersive outdoor use of processing aids in open systems

Activity : Aerosols

Amount used

Daily amount per site : 6.14 kg
Annual amount per site : 2.24 tonnes

Environment factors not influenced by risk management

Flow rate : 18,000 m³/day

Other given operational conditions affecting environmental exposure

Dispersive use

Number of emission days per year : 365

Emission or Release Factor: Air : 1 %

Emission or Release Factor: : 1 %

Water

Emission or Release Factor: Soil : 0.01 %

Technical conditions and measures / Organizational measures

Air : No air emission controls required; required removal efficiency is 0%.

Water : Ensure all waste water is collected and treated via a WWTP., Prevent discharge of undissolved substance to or recover from wastewater.

Soil : No soil emission controls required.

Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment Plant : Municipal sewage treatment plant

Flow rate of sewage treatment plant effluent : 2,000 m³/day

Percentage removed from waste water : 93.5 %

3. Exposure estimation and reference to its source

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

Environment

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment	Value	Level of Exposure	RCR
ERC8a	EUSES		Fresh water		12 µg/L	0.022
ERC8a	EUSES		Marine water		1.15 µg/L	0.00593
ERC8a	EUSES		Fresh water sediment		22 µg/kg wwt	0.022
ERC8a	EUSES		Marine sediment		2.06 µg/kg wwt	0.00593
ERC8a	EUSES		Soil		8.40 µg/kg wwt	0.016
ERC8a	EUSES		Groundwater		1.74 µg/L	0.00322
ERC8a	EUSES		Sewage treatment plant		76 µg/L	0.00293

ERC8a: Wide dispersive indoor use of processing aids in open systems

ERC8d: Wide dispersive outdoor use of processing aids in open systems

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

1. Short title of Exposure Scenario: Use in agrochemicals (professional)

Main User Groups : SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Sectors of end-use : SU1: Agriculture, forestry, fishery
Environmental Release Categories : ERC8a, ERC8d: Wide dispersive indoor use of processing aids in open systems, Wide dispersive outdoor use of processing aids in open systems
Process categories : PROC11: Non industrial spraying

2.1 Contributing scenario controlling environmental exposure for: ERC8a, ERC8d: Wide dispersive indoor use of processing aids in open systems, Wide dispersive outdoor use of processing aids in open systems

Activity : Aerosols

Amount used

Daily amount per site : 6.14 kg
Annual amount per site : 2.24 tonnes

Environment factors not influenced by risk management

Flow rate : 18,000 m³/day

Other given operational conditions affecting environmental exposure

Dispersive use

Number of emission days per year : 365

Emission or Release Factor: Air : 1 %

Emission or Release Factor: : 1 %

Water

Emission or Release Factor: Soil : 0.01 %

Technical conditions and measures / Organizational measures

Air : No air emission controls required; required removal efficiency is 0%.

Water : Ensure all waste water is collected and treated via a WWTP., Prevent discharge of undissolved substance to or recover from wastewater.

Soil : No soil emission controls required.

Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment Plant : Municipal sewage treatment plant

Flow rate of sewage treatment plant effluent : 2,000 m³/day

Percentage removed from waste water : 93.5 %

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

2.2 Contributing scenario controlling worker exposure for: PROC11: Non industrial spraying

Activity	: Insecticide, Aerosols, Indoor
Product characteristics	
Concentration of the Substance in Mixture/Article	: Covers the percentage of the substance in the product up to 25 %.
Physical Form (at time of use)	: Liquid, vapour pressure > 10 kPa
Frequency and duration of use	
Remarks	: Covers daily exposures up to 8 hours (unless stated differently).
Other operational conditions affecting workers exposure	
Outdoor / Indoor	: Indoor
	: , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of occupational hygiene is implemented.

Organisational measures to prevent /limit releases, dispersion and exposure

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

Wear a respirator conforming to EN140 with Type A filter or better. (Effectiveness (of a measure): 90 %)

2.3 Contributing scenario controlling worker exposure for: PROC11: Non industrial spraying

Activity	: Insecticide, Aerosols, Indoor
Product characteristics	
Concentration of the Substance in Mixture/Article	: Covers the percentage of the substance in the product up to 25 %.
Physical Form (at time of use)	: Liquid, vapour pressure > 10 kPa
Other operational conditions affecting workers exposure	
Outdoor / Indoor	: Indoor
	: , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Ensure that enough fresh air is supplied to dilute and remove dusts, fumes or vapours. Between 5 and 15 air changes per hour are recommended, with a through draught. (Effectiveness (of a measure): 70 %)

Segregate the activity away from other operations. (Effectiveness (of a measure): 50 %)

Organisational measures to prevent /limit releases, dispersion and exposure

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop., Avoid carrying out operation for more than 4 hours.

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

2.4 Contributing scenario controlling worker exposure for: PROC11: Non industrial spraying

Activity : Insecticide, Aerosols, Outdoor
Product characteristics
Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 25 %.
Physical Form (at time of use) : Liquid, vapour pressure > 10 kPa

Frequency and duration of use
Remarks : Covers daily exposures up to 8 hours (unless stated differently).

Other operational conditions affecting workers exposure

Outdoor / Indoor : Outdoor
: , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of occupational hygiene is implemented.

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operation is undertaken outdoors., Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

Wear a respirator conforming to EN140 with Type A filter or better. (Effectiveness (of a measure): 90 %)

2.5 Contributing scenario controlling worker exposure for: PROC11: Non industrial spraying

Activity : Insecticide, Aerosols, Outdoor
Product characteristics
Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 25 %.
Physical Form (at time of use) : Liquid, vapour pressure > 10 kPa

Frequency and duration of use

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

Remarks : Covers daily exposures up to 8 hours (unless stated differently).

Other operational conditions affecting workers exposure

Outdoor / Indoor : Outdoor
: , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Apply within a vented cab supplied with filtered air under positive pressure and with a protection factor of >20. (Effectiveness (of a measure): 95 %)

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operation is undertaken outdoors., Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

3. Exposure estimation and reference to its source

Environment

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment	Value	Level of Exposure	RCR
ERC8a	EUSES		Fresh water		12 µg/L	0.022
ERC8a	EUSES		Marine water		1.15 µg/L	0.00593
ERC8a	EUSES		Fresh water sediment		22 µg/kg wwt	0.022
ERC8a	EUSES		Marine sediment		2.06 µg/kg wwt	0.00593
ERC8a	EUSES		Soil		8.40 µg/kg wwt	0.016
ERC8a	EUSES		Groundwater		1.74 µg/L	0.00322
ERC8a	EUSES		Sewage treatment plant		76 µg/L	0.00293

Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value	Level of Exposure	RCR
PROC11	ECETOC TRA v2.0 Worker	Indoor	Chronic inhalation	60 ppm	0.6

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

			systemic exposure		
PROC11	ECETOC TRA v2.0 Worker	Indoor	Chronic dermal systemic exposure	12.86 mg/kg/day	0.003
PROC11	ECETOC TRA v2.0 Worker	Indoor	Chronic inhalation systemic exposure	54 ppm	0.54
PROC11	ECETOC TRA v2.0 Worker	Indoor	Chronic dermal systemic exposure	12.86 mg/kg/day	0.003
PROC11	ECETOC TRA v2.0 Worker	Outdoor	Chronic inhalation systemic exposure	42 ppm	0.42
PROC11	ECETOC TRA v2.0 Worker	Outdoor	Chronic dermal systemic exposure	12.86 mg/kg/day	0.003
PROC11	ECETOC TRA v2.0 Worker	Outdoor	Chronic inhalation systemic exposure	21 ppm	0.21
PROC11	ECETOC TRA v2.0 Worker	Outdoor	Chronic dermal systemic exposure	12.86 mg/kg/day	0.003

ERC8a: Wide dispersive indoor use of processing aids in open systems

ERC8d: Wide dispersive outdoor use of processing aids in open systems

PROC11: Non industrial spraying

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

1. Short title of Exposure Scenario: Packing and repacking of formulations

Main User Groups	: SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Sectors of end-use	: SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Environmental Release Categories	: ERC8a, ERC8d: Wide dispersive indoor use of processing aids in open systems, Wide dispersive outdoor use of processing aids in open systems
Process categories	: PROC8a: Transfer of substance or preparation (charging/discharging) from/ to vessels/ large containers at non-dedicated facilities PROC8b: Transfer of substance or preparation (charging/discharging) from/ to vessels/ large containers at dedicated facilities PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)

2.1 Contributing scenario controlling environmental exposure for: ERC8a, ERC8d: Wide dispersive indoor use of processing aids in open systems, Wide dispersive outdoor use of processing aids in open systems

Activity : Aerosols

Amount used

Daily amount per site : 15.4 kg
Annual amount per site : 5.62 tonnes

Environment factors not influenced by risk management

Flow rate : 18,000 m³/day

Other given operational conditions affecting environmental exposure

Dispersive use

Number of emission days per year : 365

Emission or Release Factor: Air : 1 %

Emission or Release Factor: : 1 %

Water

Emission or Release Factor: Soil : 0.01 %

Technical conditions and measures / Organizational measures

Air : No air emission controls required; required removal efficiency is 0%.

Water : Ensure all waste water is collected and treated via a WWTP., Prevent discharge of undissolved substance to or recover from wastewater.

Soil : Soil emission controls are not applicable as there is no direct release to soil.

Conditions and measures related to municipal sewage treatment plant

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

Type of Sewage Treatment Plant : Municipal sewage treatment plant
Flow rate of sewage treatment : 2,000 m³/day
plant effluent
Percentage removed from waste : 93.5 %
water

2.2 Contributing scenario controlling worker exposure for: PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities

Activity : Repackaging, Indoor
Product characteristics
Concentration of the Substance : Covers the percentage of the substance in the product up to 100 % (unless stated differently).
in Mixture/Article
Physical Form (at time of use) : Liquid, vapour pressure > 10 kPa
Other operational conditions affecting workers exposure
Outdoor / Indoor : Indoor
: , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Provide extraction ventilation at points where emissions occur. (Effectiveness (of a measure): 80 %)

Organisational measures to prevent /limit releases, dispersion and exposure

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop., Avoid carrying out operation for more than 4 hours.

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

2.3 Contributing scenario controlling worker exposure for: PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities

Activity : Repackaging, Outdoor
Product characteristics
Concentration of the Substance : Covers the percentage of the substance in the product up to 100 % (unless stated differently).
in Mixture/Article
Physical Form (at time of use) : Liquid, vapour pressure > 10 kPa
Other operational conditions affecting workers exposure
Outdoor / Indoor : Outdoor
: , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of occupational hygiene is implemented.

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operation is undertaken outdoors., Avoid carrying out operation for more than 1 hour., Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

2.4 Contributing scenario controlling worker exposure for: PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities

Activity	: Repackaging, Indoor
Product characteristics	
Concentration of the Substance in Mixture/Article	: Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use)	: Liquid, vapour pressure > 10 kPa
Frequency and duration of use	
Remarks	: Covers daily exposures up to 8 hours (unless stated differently).

Other operational conditions affecting workers exposure

Outdoor / Indoor	: Indoor
	: , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Fill containers/cans at dedicated filling points supplied with local extract ventilation. (Effectiveness (of a measure): 90 %)

Organisational measures to prevent /limit releases, dispersion and exposure

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

2.5 Contributing scenario controlling worker exposure for: PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities

Activity	: Repackaging, Outdoor
Product characteristics	
Concentration of the Substance in Mixture/Article	: Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use)	: Liquid, vapour pressure > 10 kPa

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

Other operational conditions affecting workers exposure

Outdoor / Indoor : Outdoor
: , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of occupational hygiene is implemented.

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operation is undertaken outdoors., Use dedicated equipment., Avoid carrying out operation for more than 1 hour., Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

2.6 Contributing scenario controlling worker exposure for: PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)

Activity	: Repackaging, Indoor
Product characteristics	
Concentration of the Substance in Mixture/Article	: Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use)	: Liquid, vapour pressure > 10 kPa
Frequency and duration of use	
Remarks	: Covers daily exposures up to 8 hours (unless stated differently).

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor
: , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Fill containers/cans at dedicated filling points supplied with local extract ventilation. (Effectiveness (of a measure): 80 %)

Organisational measures to prevent /limit releases, dispersion and exposure

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

2.7 Contributing scenario controlling worker exposure for: PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

Activity : Repackaging, Outdoor
Product characteristics
Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use) : Liquid, vapour pressure > 10 kPa

Other operational conditions affecting workers exposure
Outdoor / Indoor : Outdoor
: , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of occupational hygiene is implemented.

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operation is undertaken outdoors., Use dedicated equipment., Avoid carrying out operation for more than 1 hour., Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

3. Exposure estimation and reference to its source

Environment

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment	Value	Level of Exposure	RCR
ERC8a	EUSES		Fresh water		0.283 mg/L	0.524
ERC8a	EUSES		Marine water		0.0282 mg/L	0.145
ERC8a	EUSES		Fresh water sediment		0.509 mg/kg wet weight	0.524
ERC8a	EUSES		Marine sediment		0.0507 mg/kg wet weight	0.145
ERC8a	EUSES		Soil		0.308 mg/kg dry weight	0.599
ERC8a	EUSES		Groundwater		0.0639 mg/L	0.118
ERC8a	EUSES		Sewage treatment plant		2.78 mg/L	0.107

Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value	Level of Exposure	RCR
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METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

PROC8a	ECETOC TRA v2.0 Worker		Chronic inhalation systemic exposure	60 ppm	0.6
PROC8a	ECETOC TRA v2.0 Worker		Chronic dermal systemic exposure	2.74 mg/kg/day	0.0006
PROC8a	ECETOC TRA v2.0 Worker		Chronic inhalation systemic exposure	70 ppm	0.7
PROC8a	ECETOC TRA v2.0 Worker		Chronic dermal systemic exposure	2.74 mg/kg/day	0.0006
PROC8b	ECETOC TRA v2.0 Worker		Chronic inhalation systemic exposure	25 ppm	0.25
PROC8b	ECETOC TRA v2.0 Worker		Chronic dermal systemic exposure	1.37 mg/kg/day	0.0003
PROC8b	ECETOC TRA v2.0 Worker		Chronic inhalation systemic exposure	35 ppm	0.35
PROC8b	ECETOC TRA v2.0 Worker		Chronic dermal systemic exposure	1.37 mg/kg/day	0.0003
PROC9	ECETOC TRA v2.0 Worker		Chronic inhalation systemic exposure	50 ppm	0.5
PROC9	ECETOC TRA v2.0 Worker		Chronic dermal systemic exposure	1.37 mg/kg/day	0.0003
PROC9	ECETOC TRA v2.0 Worker		Chronic inhalation systemic exposure	35 ppm	0.35
PROC9	ECETOC TRA v2.0 Worker		Chronic dermal systemic exposure	1.37 mg/kg/day	0.0003

ERC8a: Wide dispersive indoor use of processing aids in open systems

ERC8d: Wide dispersive outdoor use of processing aids in open systems

PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities

PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

1. Short title of Exposure Scenario: Laboratory Reagents

Main User Groups : SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Sectors of end-use : SU24: Scientific research and development
Environmental Release Categories : ERC8a: Wide dispersive indoor use of processing aids in open systems
Process categories : PROC10: Roller application or brushing
PROC15: Use as laboratory reagent

2.1 Contributing scenario controlling environmental exposure for: ERC8a: Wide dispersive indoor use of processing aids in open systems

Activity : Aerosols

Amount used

Daily amount per site : 704 kg
Annual amount per site : 257 tonnes

Environment factors not influenced by risk management

Flow rate : 18,000 m³/day

Other given operational conditions affecting environmental exposure

Dispersive use

Number of emission days per year : 365

Emission or Release Factor: Air : 0.5 %

Emission or Release Factor: : 0.5 %

Water

Emission or Release Factor: Soil : 0 %

Remarks : Indoor use

Technical conditions and measures / Organizational measures

Air : No air emission controls required; required removal efficiency is 0%.

Water : Ensure all waste water is collected and treated via a WWTP., Prevent discharge of undissolved substance to or recover from wastewater.

Soil : No soil emission controls required.

Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment Plant : Municipal sewage treatment plant

Flow rate of sewage treatment plant effluent : 2,000 m³/day

Percentage removed from waste water : 93.5 %

2.2 Contributing scenario controlling worker exposure for: PROC10: Roller application or brushing

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

Activity	: Coatings and paints, thinners, paint removers, Indoor
Product characteristics	
Concentration of the Substance in Mixture/Article	: Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use)	: Liquid, vapour pressure > 10 kPa
	: , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures

Provide extraction ventilation at points where emissions occur. (Effectiveness (of a measure): 80 %)

Organisational measures to prevent /limit releases, dispersion and exposure

Avoid carrying out operation for more than 4 hours., Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 90 %)

2.3 Contributing scenario controlling worker exposure for: PROC15: Use as laboratory reagent

Product characteristics

Concentration of the Substance in Mixture/Article	: Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use)	: Liquid, vapour pressure > 10 kPa

Frequency and duration of use

Remarks	: Covers daily exposures up to 8 hours (unless stated differently).
	: , Assumes use at not more than 20°C above ambient temperature., Assumes a good basic standard of occupational hygiene is implemented.

Organisational measures to prevent /limit releases, dispersion and exposure

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 80 %)

3. Exposure estimation and reference to its source

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

Environment

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment	Value	Level of Exposure	RCR
ERC8a	EUSES		Fresh water		5.77 µg/L	0.011
ERC8a	EUSES		Marine water		0.481 µg/L	0.00248
ERC8a	EUSES		Fresh water sediment		10 µg/kg wwt	0.011
ERC8a	EUSES		Marine sediment		0.865 µg/kg wwt	0.00248
ERC8a	EUSES		Soil		1.02 µg/kg wwt	0.00199
ERC8a	EUSES		Groundwater		0.221 µg/L	0.000409
ERC8a	EUSES		Sewage treatment plant		9.13 µg/L	0.000353

Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value	Level of Exposure	RCR
PROC10	ECETOC TRA v2.0 Worker		Chronic inhalation systemic exposure	60 ppm	0.6
PROC10	ECETOC TRA v2.0 Worker		Chronic dermal systemic exposure	5.49 mg/kg/day	0.0012
PROC15	ECETOC TRA v2.0 Worker		Chronic inhalation systemic exposure	50 ppm	0.5
PROC15	ECETOC TRA v2.0 Worker		Chronic dermal systemic exposure	0.07 mg/kg/day	0.00001

ERC8a: Wide dispersive indoor use of processing aids in open systems

PROC10: Roller application or brushing

PROC15: Use as laboratory reagent

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

1. Short title of Exposure Scenario: Consumer use

Main User Groups	: SU 21: Consumer uses: Private households (= general public = consumers)
Sectors of end-use	: SU 21: Consumer uses: Private households (= general public = consumers)
Environmental Release Categories	: ERC8a, ERC8d: Wide dispersive indoor use of processing aids in open systems, Wide dispersive outdoor use of processing aids in open systems
Chemical product category	: PC1: Adhesives, sealants PC8: Biocidal products (e.g. Disinfectants, pest control) PC9: Coatings and Paints, Fillers, Putties, Thinners PC27: Plant protection products PC35: Washing and cleaning products (including solvent based products) PC39: Cosmetics, personal care products

2.1 Contributing scenario controlling environmental exposure for: ERC8a, ERC8d: Wide dispersive indoor use of processing aids in open systems, Wide dispersive outdoor use of processing aids in open systems

Amount used

Daily amount per site	: 15.4 kg
Annual amount per site	: 5.62 tonnes

Environment factors not influenced by risk management

Flow rate	: 18,000 m ³ /day
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Other given operational conditions affecting environmental exposure

Dispersive use

Number of emission days per year	: 365
Emission or Release Factor: Air	: 1 %
Emission or Release Factor:	: 1 %
Water	
Emission or Release Factor: Soil	: 0.01 %

Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment Plant	: Municipal sewage treatment plant
Flow rate of sewage treatment plant effluent	: 2,000 m ³ /day
Percentage removed from waste water	: 93.5 %

2.2 Contributing scenario controlling consumer exposure for: PC1: Adhesives, sealants : DIY - Glues from tube

Product characteristics

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100 % (unless stated differently).

Physical Form (at time of use) : Liquid, vapour pressure > 10 kPa

Amount used

Amount used per event : 9 gram

Frequency and duration of use

Duration of the activity : < 240 min

Frequency of use : 52 days/year

Human factors not influenced by risk management

Dermal exposure : 2 cm²

Other given operational conditions affecting consumers exposure

Room size : 20 m³

Remarks : Assumes activities are at ambient temperature (unless stated differently)., Assumes use with typical ventilation

Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)

Consumer Measures : Avoid skin contact area greater than 2 cm²

2.3 Contributing scenario controlling consumer exposure for: PC1: Adhesives, sealants

Activity : Use of sealants by rolling

Product characteristics

Physical Form (at time of use) : Liquid, vapour pressure > 10 kPa

Amount used

Amount used per event : 10 gram

Frequency and duration of use

Duration of the activity : < 240 min

Frequency of use : 52 days/year

Human factors not influenced by risk management

Dermal exposure : 2 cm²

Other given operational conditions affecting consumers exposure

Room size : 20 m³

Remarks : Assumes activities are at ambient temperature (unless stated differently)., Assumes use with typical ventilation

Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)

Consumer Measures : Avoid skin contact area greater than 2 cm²

2.4 Contributing scenario controlling consumer exposure for: PC1: Adhesives, sealants : DIY - Super glue

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

Product characteristics

Physical Form (at time of use) : Liquid, vapour pressure > 10 kPa

Amount used

Amount used per event : 0.5 gram

Frequency and duration of use

Duration of the activity : < 240 min

Frequency of use : 12 days/year

Human factors not influenced by risk management

Dermal exposure : 2 cm²

Other given operational conditions affecting consumers exposure

Room size : 20 m³

Remarks : Assumes activities are at ambient temperature (unless stated differently)., Assumes use with typical ventilation

Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)

Consumer Measures : Avoid skin contact area greater than 2 cm²

2.5 Contributing scenario controlling consumer exposure for: PC1: Adhesives, sealants : DIY - Wood parquet glue

Product characteristics

Concentration of the Substance in Mixture/Article : Covers percentage substance in the product up to 10%.

Physical Form (at time of use) : Liquid, vapour pressure > 10 kPa

Amount used

Amount used per event : 0.75 kg

Frequency and duration of use

Duration of the activity : < 240 min

Remarks : 0.25, event(s)/year

Human factors not influenced by risk management

Dermal exposure : 110 cm²

Other given operational conditions affecting consumers exposure

Room size : 58 m³

Remarks : Assumes activities are at ambient temperature (unless stated differently)., Assumes use with typical ventilation

Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)

Consumer Measures : Avoid skin contact area greater than 110 cm², Avoid using at a product concentration greater than 10%, Avoid using when windows closed

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

2.6 Contributing scenario controlling consumer exposure for: PC1: Adhesives, sealants : DIY - Carpet glue

Product characteristics

Physical Form (at time of use) : Liquid, vapour pressure > 10 kPa

Amount used

Amount used per event : 1 kg

Frequency and duration of use

Duration of the activity : < 75 min

Remarks : 0.25, event(s)/year

Human factors not influenced by risk management

Dermal exposure : 110 cm²

Other given operational conditions affecting consumers exposure

Room size : 58 m³

Remarks : Assumes activities are at ambient temperature (unless stated differently)., Assumes use with typical ventilation

Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)

Consumer Measures : Avoid skin contact area greater than 110 cm², Avoid using at a product concentration greater than 10%, Avoid using when windows closed

2.7 Contributing scenario controlling consumer exposure for: PC1: Adhesives, sealants : DIY - Glue from spray

Product characteristics

Physical Form (at time of use) : Liquid, vapour pressure > 10 kPa

Frequency and duration of use

Duration of the activity : < 240 min

Frequency of use : 12 days/year

Human factors not influenced by risk management

Dermal exposure : 430 cm²

Other given operational conditions affecting consumers exposure

Room size : 20 m³

Remarks : Assumes activities are at ambient temperature (unless stated differently)., Assumes use with typical ventilation

Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)

Consumer Measures : Spraying away from exposed person, Avoid skin contact area greater than 430 cm², Avoid using at a product

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

concentration greater than 20%

2.8 Contributing scenario controlling consumer exposure for: PC1: Adhesives, sealants : DIY - Glue from spray (joint sealants)

Product characteristics

Physical Form (at time of use) : Liquid, vapour pressure > 10 kPa

Amount used

Amount used per event : 75 gram

Frequency and duration of use

Duration of the activity : 45 min

Frequency of use : 3 days/year

Human factors not influenced by risk management

Dermal exposure : 2 cm²

Other given operational conditions affecting consumers exposure

Room size : 10 m³

Remarks : Assumes activities are at ambient temperature (unless stated differently)., Assumes use with typical ventilation

Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)

Consumer Measures : Avoid skin contact area greater than 2 cm², Avoid using at a product concentration greater than 10%

2.9 Contributing scenario controlling consumer exposure for: PC1: Adhesives, sealants : DIY - Assembly sealants

Product characteristics

Physical Form (at time of use) : Liquid, vapour pressure > 10 kPa

Amount used

Amount used per event : 390 gram

Frequency and duration of use

Duration of the activity : < 240 min

Frequency of use : 1 days/year

Human factors not influenced by risk management

Dermal exposure : 43 cm²

Other given operational conditions affecting consumers exposure

Room size : 20 m³

Remarks : Assumes activities are at ambient temperature (unless stated differently)., Assumes use with typical ventilation

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)

Consumer Measures : Avoid skin contact area greater than 43 cm², Avoid using at a product concentration greater than 14%, Avoid using when windows closed

2.10 Contributing scenario controlling consumer exposure for: PC9: Coatings and Paints, Fillers, Putties, Thinners

Product characteristics

Physical Form (at time of use) : Liquid, vapour pressure > 10 kPa

Amount used

Amount used per event : 279 gram

Frequency and duration of use

Duration of the activity : 20 min

Frequency of use : 2 days/year

Other given operational conditions affecting consumers exposure

Room size : 34 m³

Remarks : Assumes activities are at ambient temperature (unless stated differently)., Assumes use with typical ventilation

Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)

Consumer Measures : Spraying away from exposed person, Avoid using at a product concentration greater than 20%

2.11 Contributing scenario controlling consumer exposure for: PC27: Plant protection products

Product characteristics

Physical Form (at time of use) : Liquid, vapour pressure > 10 kPa

Amount used

Amount used per event : 14.85 gram

Frequency and duration of use

Duration of the activity : < 240 min

Frequency of use : 90 days/year

Other given operational conditions affecting consumers exposure

Room size : 58 m³

Remarks : Assumes activities are at ambient temperature (unless stated differently)., Assumes use with typical ventilation

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)

Consumer Measures : Spraying away from exposed person, Avoid using at a product concentration greater than 20%

2.12 Contributing scenario controlling consumer exposure for: PC35: Washing and cleaning products (including solvent based products)

Product characteristics

Physical Form (at time of use) : Liquid, vapour pressure > 10 kPa

Amount used

Amount used per event : 27 gram

Frequency and duration of use

Duration of the activity : < 60 min

Frequency of use : 1 event/day

Frequency of use : 128 days/year

Human factors not influenced by risk management

Dermal exposure : 215 cm²

Other given operational conditions affecting consumers exposure

Room size : 15 m³

Remarks : Assumes activities are at ambient temperature (unless stated differently), Covers use under typical household ventilation

Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)

Consumer Measures : Avoid skin contact area greater than 215 cm², Avoid using at a product concentration greater than 20%

3. Exposure estimation and reference to its source

Environment

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment	Value	Level of Exposure	RCR
ERC8a	EUSES		Fresh water		13 µg/L	0.024
ERC8a	EUSES		Marine water		1.19 µg/L	0.00613
ERC8a	EUSES		Fresh water sediment		23	0.024
ERC8a	EUSES		Marine sediment		2.14	0.00613
ERC8a	EUSES		Soil		8.86	0.017
ERC8a	EUSES		Groundwater		1.84 µg/L	0.00341

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

ERC8a	EUSES		Sewage treatment plant		80 µg/L	0.00308
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Consumers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value	Level of Exposure	RCR
PC1	Consexpo	DIY - Glues from tube	Acute inhalation systemic exposure		0.44
PC1	Consexpo	DIY - Glues from tube	Chronic inhalation systemic exposure		0.29
PC1	Consexpo	DIY - Glues from tube	Chronic dermal systemic exposure		0.0006
PC1	Consexpo	Use of sealants by rolling	Acute inhalation systemic exposure		0.44
PC1	Consexpo	Use of sealants by rolling	Chronic inhalation systemic exposure		0.29
PC1	Consexpo	Use of sealants by rolling	Chronic dermal systemic exposure		0.0006
PC1	Consexpo	DIY - Super glue	Acute inhalation systemic exposure		0.44
PC1	Consexpo	DIY - Super glue	Chronic inhalation systemic exposure		0.29
PC1	Consexpo	DIY - Super glue	Chronic dermal systemic exposure		0.0006
PC1	Consexpo	DIY - Wood parquet glue	Acute inhalation systemic exposure		0.44
PC1	Consexpo	DIY - Wood parquet glue	Chronic inhalation systemic exposure		0.29
PC1	Consexpo	DIY - Wood parquet glue	Chronic		0.0006

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

			dermal systemic exposure	
PC1	Consexpo	DIY - Carpet glue	Acute inhalation systemic exposure	0.44
PC1	Consexpo	DIY - Carpet glue	Chronic inhalation systemic exposure	0.29
PC1	Consexpo	DIY - Carpet glue	Chronic dermal systemic exposure	0.0006
PC1	Consexpo	DIY - Glue from spray	Acute inhalation systemic exposure	0.44
PC1	Consexpo	DIY - Glue from spray	Chronic inhalation systemic exposure	0.29
PC1	Consexpo	DIY - Glue from spray	Chronic dermal systemic exposure	0.0006
PC1	Consexpo	DIY - Glue from spray (joint sealants)	Acute inhalation systemic exposure	0.44
PC1	Consexpo	DIY - Glue from spray (joint sealants)	Chronic inhalation systemic exposure	0.29
PC1	Consexpo	DIY - Glue from spray (joint sealants)	Chronic dermal systemic exposure	0.0006
PC1	Consexpo	DIY - Assembly sealants	Acute inhalation systemic exposure	0.44
PC1	Consexpo	DIY - Assembly sealants	Chronic inhalation systemic exposure	0.29
PC1	Consexpo	DIY - Assembly sealants	Chronic dermal systemic exposure	0.0006
PC9	Consexpo		Acute inhalation systemic exposure	0.44

METHYLENE CHLORIDE (stabilizer: Amylene)

Version 1

Revision Date 20.11.2012

Print Date 03.01.2014

GB / EN

PC9	Consexpo		Chronic inhalation systemic exposure	0.29
PC9	Consexpo		Chronic dermal systemic exposure	0.0006
PC27	Consexpo		Acute inhalation systemic exposure	0.44
PC27	Consexpo		Chronic inhalation systemic exposure	0.29
PC27	Consexpo		Chronic dermal systemic exposure	0.0006
PC35	Consexpo		Acute inhalation systemic exposure	0.44
PC35	Consexpo		Chronic inhalation systemic exposure	0.29
PC35	Consexpo		Chronic dermal systemic exposure	0.0006

ERC8a: Wide dispersive indoor use of processing aids in open systems

ERC8d: Wide dispersive outdoor use of processing aids in open systems

PC1: Adhesives, sealants

PC27: Plant protection products

PC35: Washing and cleaning products (including solvent based products)

PC9: Coatings and Paints, Fillers, Putties, Thinners

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario
