

## Barrier/Barrier 77 Comp B

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

#### 1.1 Product identifier

**Product name** : Barrier/Barrier 77 Comp B  
**Product code** : 402  
**Product description** : Paint.  
**Product type** : Liquid.  
**Other means of identification** : Not available.

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

##### Identified uses

Use in coatings - Industrial use  
 Use in coatings - Professional use

See Annex to the Safety data sheet for additional information in the Exposure Scenario(s).

#### 1.3 Details of the supplier of the safety data sheet

MANUFACTURER/SUPPLIER:  
 Jotun Paints (Europe) Ltd.  
 Stather Road  
 Flixborough, Scunthorpe  
 North Lincolnshire  
 DN15 8RR  
 England

Tel: +44 17 24 40 00 00  
 Fax: +44 17 24 40 01 00  
 SDSJotun@jotun.com

#### 1.4 Emergency telephone number

Contact NHS Direct; phone 0845 4647 or 111. Open 24/7.

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

**Product definition** : Mixture

##### Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Flam. Liq. 3, H226  
 Acute Tox. 4, H332  
 Skin Irrit. 2, H315  
 Eye Irrit. 2, H319  
 Skin Sens. 1, H317  
 STOT RE 2, H373 (hearing organs)  
 Aquatic Chronic 3, H412

#### 2.2 Label elements

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**SECTION 8: Exposure controls/personal protection**

	PNEC	Marine	0.056 mg/l	-
	PNEC	Sewage Treatment Plant	6 mg/l	-
	PNEC	Fresh water sediment	1072 mg/kg dwt	-
	PNEC	Marine water sediment	107.2 mg/kg dwt	-
	PNEC	Soil	214 mg/kg dwt	-

**8.2 Exposure controls**

**Appropriate engineering controls**

: Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

**Individual protection measures**

**Hygiene measures**

: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection**

: Safety eyewear complying to EN 166 should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

**Skin protection**

**Hand protection**

: There is no one glove material or combination of materials that will give unlimited resistance to any individual or combination of chemicals. The breakthrough time must be greater than the end use time of the product. The instructions and information provided by the glove manufacturer on use, storage, maintenance and replacement must be followed. Gloves should be replaced regularly and if there is any sign of damage to the glove material. Always ensure that gloves are free from defects and that they are stored and used correctly. The performance or effectiveness of the glove may be reduced by physical/chemical damage and poor maintenance. Barrier creams may help to protect the exposed areas of the skin but should not be applied once exposure has occurred. Wear suitable gloves tested to EN374. Not recommended, gloves(breakthrough time) < 1 hour: neoprene, butyl rubber, PVC Recommended, gloves(breakthrough time) > 8 hours: 4H, Teflon, polyvinyl alcohol (PVA), nitrile rubber

For right choice of glove materials, with focus on chemical resistance and time of penetration, seek advice by the supplier of chemical resistant gloves.

The user must check that the final choice of type of glove selected for handling this product is the most appropriate and takes into account the particular conditions of use, as included in the user's risk assessment.

**Body protection**

: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves. Refer to European Standard EN 1149 for further information on material and design requirements and test methods.

**Barrier/Barrier 77 Comp B****SECTION 8: Exposure controls/personal protection**

- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : If workers are exposed to concentrations above the exposure limit, they must use a respirator according to EN 140. Use respiratory mask with charcoal and dust filter when spraying this product, according to EN 14387(as filter combination A2-P2). In confined spaces, use compressed-air or fresh-air respiratory equipment. When use of roller or brush, consider use of charcoalfilter.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

**SECTION 9: Physical and chemical properties****9.1 Information on basic physical and chemical properties****Appearance**

- Physical state** : Liquid.
- Colour** : Various colours.
- Odour** : Characteristic.
- Odour threshold** : Not applicable.
- pH** : Not applicable.
- Melting point/freezing point** : Not applicable.
- Initial boiling point and boiling range** : Lowest known value: 120.17°C (248.3°F) (1-methoxy-2-propanol). Weighted average: 133.72°C (272.7°F)
- Flash point** : Closed cup: 25°C
- Evaporation rate** : Highest known value: 0.84 (ethylbenzene) Weighted average: 0.79compared with butyl acetate
- Flammability (solid, gas)** : Not applicable.
- Burning time** : Not applicable.
- Burning rate** : Not applicable.
- Upper/lower flammability or explosive limits** : 0.8 - 13.74%
- Vapour pressure** : Highest known value: 1.2 kPa (9.3 mm Hg) (at 20°C) (ethylbenzene). Weighted average: 0.96 kPa (7.2 mm Hg) (at 20°C)
- Vapour density** : Highest known value: 3.7 (Air = 1) (xylene). Weighted average: 3.61 (Air = 1)
- Relative density** : 0.92 g/cm<sup>3</sup>
- Solubility(ies)** : Insoluble in the following materials: cold water and hot water.
- Partition coefficient: n-octanol/ water** : Not available.
- Auto-ignition temperature** : Lowest known value: 270°C (518°F) (1-methoxy-2-propanol).
- Decomposition temperature** : Not available.
- Viscosity** : Kinematic (40°C): >0.205 cm<sup>2</sup>/s (>20.5 mm<sup>2</sup>/s)
- Explosive properties** : Not available.
- Oxidising properties** : Not available.

**9.2 Other information**

No additional information.

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**SECTION 10: Stability and reactivity**

- 10.1 Reactivity** : No specific test data related to reactivity available for this product or its ingredients.
- 10.2 Chemical stability** : The product is stable.
- 10.3 Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.
- 10.4 Conditions to avoid** : Avoid all possible sources of ignition (spark or flame). Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
- 10.5 Incompatible materials** : Keep away from the following materials to prevent strong exothermic reactions: oxidising agents, strong alkalis, strong acids.  
 Under normal conditions of storage and use, hazardous reactions will not occur.
- 10.6 Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

**SECTION 11: Toxicological information**

**11.1 Information on toxicological effects**

There are no data available on the mixture itself. The mixture has been assessed following the conventional method of the CLP Regulation (EC) No 1272/2008 and is classified for toxicological properties accordingly. See Sections 2 and 3 for details.

Exposure to component solvent vapour concentrations in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, loss of consciousness.

Solvents may cause some of the above effects by absorption through the skin. Repeated or prolonged contact with the mixture may cause removal of natural fat from the skin, resulting in non-allergic contact dermatitis and absorption through the skin.

If splashed in the eyes, the liquid may cause irritation and reversible damage.

Ingestion may cause nausea, diarrhea and vomiting.

This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

Contains fatty acids, C18-unsatd., trimers, compds. with oleylamine, Fatty acids, tall-oil, compds. with oleylamine, Amines, polyethylenepoly-, triethylenetetramine fraction, 2,2'-iminodi(ethylamine). May produce an allergic reaction.

Product/ingredient name	Result	Species	Dose	Exposure
<input checked="" type="checkbox"/> xylene	LC50 Inhalation Vapour	Rat	20 mg/l	4 hours
	LD50 Oral	Rat	4300 mg/kg	-
	TDL <sub>0</sub> Dermal	Rabbit	4300 mg/kg	-
ethylbenzene	LC50 Inhalation Gas.	Rabbit	4000 ppm	4 hours
	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	3500 mg/kg	-
1-methoxy-2-propanol	LD50 Dermal	Rabbit	13 g/kg	-
	LD50 Oral	Rat	6600 mg/kg	-
Amines, polyethylenepoly-, triethylenetetramine fraction	LD50 Dermal	Rabbit - Male, Female	1465.4 mg/kg	-
	LD50 Oral	Rat - Male, Female	1716.2 mg/kg	-
	LC50 Inhalation Vapour	Rat	0.5 mg/l	4 hours
2,2'-iminodi(ethylamine)	LD50 Dermal	Rabbit	1090 mg/kg	-
	LD50 Oral	Rat	1080 mg/kg	-

**Acute toxicity estimates**

Route	ATE value
<input checked="" type="checkbox"/> Oral	31250 mg/kg
Dermal	2630.8 mg/kg
Inhalation (vapours)	15.8 mg/l

**Irritation/Corrosion**

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**SECTION 11: Toxicological information**

Product/ingredient name	Result	Species	Score	Exposure	Observation
2-methoxy-2-propanol  2,2'-iminodi(ethylamine)	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	500 milligrams	-
	Skin - Moderate irritant	Rabbit	-	500 milligrams	-

**Specific target organ toxicity (single exposure)**

Product/ingredient name	Category	Route of exposure	Target organs
2-methoxy-2-propanol hydrocarbons, C9, aromatics, (<0.1% Benzene)	Category 3	Not applicable.	Narcotic effects
	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
2,2'-iminodi(ethylamine)	Category 3	Not applicable.	Respiratory tract irritation

**Specific target organ toxicity (repeated exposure)**

Product/ingredient name	Category	Route of exposure	Target organs
ethylbenzene	Category 2	Not determined	hearing organs
fatty acids, C18-unsatd., trimers, compds. with oleylamine	Category 2	Not determined	Not determined
Fatty acids, tall-oil, compds. with oleylamine	Category 2	Not determined	Not determined

**Aspiration hazard**

Product/ingredient name	Result
ethylbenzene hydrocarbons, C9, aromatics, (<0.1% Benzene)	ASPIRATION HAZARD - Category 1 ASPIRATION HAZARD - Category 1

**Potential acute health effects**

- Eye contact** : Causes serious eye irritation.
- Inhalation** : Harmful if inhaled.
- Skin contact** : Causes skin irritation. May cause an allergic skin reaction.
- Ingestion** : No known significant effects or critical hazards.

**Symptoms related to the physical, chemical and toxicological characteristics**

- Eye contact** : Adverse symptoms may include the following:  
pain or irritation  
watering  
redness
- Inhalation** : No specific data.
- Skin contact** : Adverse symptoms may include the following:  
irritation  
redness
- Ingestion** : No specific data.

**Potential chronic health effects**

- General** : May cause damage to organs through prolonged or repeated exposure. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
- Carcinogenicity** : No known significant effects or critical hazards.
- Mutagenicity** : No known significant effects or critical hazards.
- Teratogenicity** : No known significant effects or critical hazards.
- Developmental effects** : No known significant effects or critical hazards.
- Fertility effects** : No known significant effects or critical hazards.

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**SECTION 11: Toxicological information**

**SECTION 12: Ecological information**

**12.1 Toxicity**

Product/ingredient name	Result	Species	Exposure
ethylbenzene hydrocarbons, C9, aromatics, (<0.1% Benzene)	Acute EC50 7.2 mg/l	Algae	48 hours
	Acute EC50 2.93 mg/l	Daphnia	48 hours
	Acute LC50 4.2 mg/l	Fish	96 hours
	Acute EC50 <10 mg/l	Daphnia	48 hours
Amines, polyethylenepoly-, triethylenetetramine fraction	Acute IC50 <10 mg/l	Algae	72 hours
	Acute LC50 <10 mg/l	Fish	96 hours
	Acute EC50 20 mg/l	Algae	72 hours
2,2'-iminodi(ethylamine)	Acute EC50 31.1 mg/l	Daphnia	48 hours
	Acute LC50 330 mg/l	Fish	96 hours
	Acute EC50 345600 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours

**Conclusion/Summary** : This material is harmful to aquatic life with long lasting effects.

**12.2 Persistence and degradability**

**Conclusion/Summary** : Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
xylene ethylbenzene hydrocarbons, C9, aromatics, (<0.1% Benzene) Amines, polyethylenepoly-, triethylenetetramine fraction	-	-	Readily
	-	-	Readily
	-	-	Not readily
	-	-	Not readily

**12.3 Bioaccumulative potential**

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
xylene	3.12	8.1 to 25.9	low
ethylbenzene	3.6	-	low
1-methoxy-2-propanol	<1	-	low
hydrocarbons, C9, aromatics, (<0.1% Benzene)	-	10 to 2500	high
Amines, polyethylenepoly-, triethylenetetramine fraction	-2.65	-	low
2,2'-iminodi(ethylamine)	-5.58	2.8 to 6.3	low

**12.4 Mobility in soil**

**Soil/water partition coefficient (K<sub>oc</sub>)** : Not available.

**Mobility** : Not available.

**12.5 Results of PBT and vPvB assessment**

**PBT** : Not applicable.

**vPvB** : Not applicable.

**12.6 Other adverse effects** : No known significant effects or critical hazards.

**Barrier/Barrier 77 Comp B****SECTION 13: Disposal considerations**

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

**13.1 Waste treatment methods**

Do not allow to enter drains or watercourses. Material and/or container must be disposed of as hazardous waste.

**European waste catalogue (EWC)** : 08 01 11\* Waste paint and varnish containing organic solvents or other dangerous substances

**SECTION 14: Transport information**

**Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in accordance with ADR/RID, IMDG/IMO and ICAO/IATA and national regulation.

**International transport regulations**

**14.1 UN number** : 1263

**14.2 UN proper shipping name** : Paint

**14.3 Transport hazard class(es)** : 3



**14.4 Packing group** : III

**14.5 Environmental hazards** : No.

**14.6 Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**Additional information**

**ADR / RID** : Tunnel restriction code: (D/E)  
Hazard identification number: 30

**IMDG** : **Emergency schedules (EmS)**  
F-E, S-E

**14.7 Transport in bulk according to Annex II of Marpol and the IBC Code** : Not available.

**SECTION 15: Regulatory information****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****EU Regulation (EC) No. 1907/2006 (REACH)****Annex XIV - List of substances subject to authorisation****Substances of very high concern**

None of the components are listed.

**Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles** : Not applicable.

**Other EU regulations**

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**SECTION 15: Regulatory information**

- Europe inventory** :  At least one component is not listed.
- Black List Chemicals** : Not listed
- Industrial emissions (integrated pollution prevention and control) - Air** : Not listed
- Industrial emissions (integrated pollution prevention and control) - Water** : Not listed
- Chemical Weapons Convention List Schedule I Chemicals** : Not listed
- Chemical Weapons Convention List Schedule II Chemicals** : Not listed
- Chemical Weapons Convention List Schedule III Chemicals** : Not listed

**15.2 Chemical safety assessment** : Not applicable.

**SECTION 16: Other information**

Indicates information that has changed from previously issued version.

- Abbreviations and acronyms** :
- ATE = Acute Toxicity Estimate
  - CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
  - DNEL = Derived No Effect Level
  - EUH statement = CLP-specific Hazard statement
  - PNEC = Predicted No Effect Concentration
  - RRN = REACH Registration Number

**Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]**

Classification	Justification
Flam. Liq. 3, H226	On basis of test data
Acute Tox. 4, H332	Calculation method
Skin Irrit. 2, H315	Calculation method
Eye Irrit. 2, H319	Calculation method
Skin Sens. 1, H317	Calculation method
STOT RE 2, H373 (hearing organs)	Calculation method
Aquatic Chronic 3, H412	Calculation method

- Full text of abbreviated H statements** :
- H225 Highly flammable liquid and vapour.
  - H226 Flammable liquid and vapour.
  - H302 Harmful if swallowed.
  - H304 May be fatal if swallowed and enters airways.
  - H312 Harmful in contact with skin.
  - H314 Causes severe skin burns and eye damage.
  - H315 Causes skin irritation.
  - H317 May cause an allergic skin reaction.
  - H318 Causes serious eye damage.
  - H319 Causes serious eye irritation.
  - H330 Fatal if inhaled.
  - H332 Harmful if inhaled.
  - H335 May cause respiratory irritation.
  - H336 May cause drowsiness or dizziness.

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**Barrier/Barrier 77 Comp B****SECTION 16: Other information**

	H373	May cause damage to organs through prolonged or repeated exposure.
	H411	Toxic to aquatic life with long lasting effects.
	H412	Harmful to aquatic life with long lasting effects.
<b>Full text of classifications [CLP/GHS]</b>	: <input checked="" type="checkbox"/> Acute Tox. 2, H330	ACUTE TOXICITY (inhalation) - Category 2
	Acute Tox. 4, H302	ACUTE TOXICITY (oral) - Category 4
	Acute Tox. 4, H312	ACUTE TOXICITY (dermal) - Category 4
	Acute Tox. 4, H332	ACUTE TOXICITY (inhalation) - Category 4
	Aquatic Chronic 2, H411	LONG-TERM AQUATIC HAZARD - Category 2
	Aquatic Chronic 3, H412	LONG-TERM AQUATIC HAZARD - Category 3
	Asp. Tox. 1, H304	ASPIRATION HAZARD - Category 1
	Eye Dam. 1, H318	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1
	Eye Irrit. 2, H319	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
	Flam. Liq. 2, H225	FLAMMABLE LIQUIDS - Category 2
	Flam. Liq. 3, H226	FLAMMABLE LIQUIDS - Category 3
	Skin Corr. 1B, H314	SKIN CORROSION/IRRITATION - Category 1B
	Skin Irrit. 2, H315	SKIN CORROSION/IRRITATION - Category 2
	Skin Sens. 1, H317	SKIN SENSITISATION - Category 1
	STOT RE 2, H373	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2
	STOT SE 3, H335	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Respiratory tract irritation) - Category 3
	STOT SE 3, H336	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Narcotic effects) - Category 3
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<b>Version</b>	: 10	

**Notice to reader**

The information in this document is given to the best of Jotun's knowledge, based on laboratory testing and practical experience. Jotun's products are considered as semi-finished goods and as such, products are often used under conditions beyond Jotun's control. Jotun cannot guarantee anything but the quality of the product itself. Minor product variations may be implemented in order to comply with local requirements. Jotun reserves the right to change the given data without further notice.

Users should always consult Jotun for specific guidance on the general suitability of this product for their needs and specific application practices.

If there is any inconsistency between different language issues of this document, the English (United Kingdom) version will prevail.



## Barrier/Barrier 77 Comp B

### Exposure Scenario: Use in coatings - Industrial use

Sector of Use	: Industrial use
Process Category	: PROC05 PROC07 PROC08a PROC10
Environmental release category(ies)	: ERC4

Covers the use in coatings (paints, inks, adhesives, etc) including exposures during use (including product transfer and preparation, application by brush, spray by hand or similar methods) and equipment cleaning.

### Operational conditions and risk management measures

#### Control of worker exposure

Frequency and duration of use	: Covers daily exposures up to 8 hours
General - Operational conditions	: Assumes use at not more than 20°C above ambient temperature, unless stated differently. Assumes a good basic standard of occupational hygiene is implemented
General - Risk management measures	: Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training. Wear suitable coveralls to prevent exposure to the skin. Use suitable eye protection. See Section 8 for information on appropriate personal protective equipment.

#### Type of activity or process

#### Risk management measures

Preparation of material for application	: Provide a good standard of controlled ventilation (10 to 15 air changes per hour).
Roller, spreader, flow application	: Provide extract ventilation to points where emissions occur.
Spraying - Manual	: Carry out in a vented booth provided with laminar airflow. or Provide a good standard of controlled ventilation (10 to 15 air changes per hour). and Wear a respirator conforming to EN140 with type A/P2 filter or better.

#### Control of environmental exposure

Organisational measures to prevent/limit release from site	: Prevent environmental discharge consistent with regulatory requirements.
Conditions and measures related to external treatment of waste for disposal	: External treatment and disposal of waste should comply with applicable local and/or national regulations. See Section 13 for additional waste treatment information.
Conditions and measures related to external recovery of waste	: External recovery and recycling of waste should comply with applicable local and/or national regulations.

#### Additional information

The exposure scenario for the mixture is based on the following substances:	
REACH #: 01-2119488216-32	



## Barrier/Barrier 77 Comp B

### Exposure Scenario: Use in coatings - Professional use

Sector of Use	: Professional use
Process Category	: PROC05 PROC08a PROC10 PROC11
Environmental release category(ies)	: ERC8a ERC8d

Covers the use in coatings (paints, inks, adhesives, etc) including exposures during use (including product transfer and preparation, application by brush, spray by hand or similar methods) and equipment cleaning.

### Operational conditions and risk management measures

#### Control of worker exposure

Frequency and duration of use	: Covers daily exposures up to 8 hours
General - Operational conditions	: Assumes use at not more than 20°C above ambient temperature, unless stated differently. Assumes a good basic standard of occupational hygiene is implemented
General - Risk management measures	: Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training. Wear suitable coveralls to prevent exposure to the skin. Use suitable eye protection. See Section 8 for information on appropriate personal protective equipment.

#### Type of activity or process

#### Risk management measures

Preparation of material for application - Indoor	: Provide a good standard of controlled ventilation (10 to 15 air changes per hour). Avoid carrying out activities involving exposure for more than 1 hour. or Provide a good standard of controlled ventilation (10 to 15 air changes per hour). Wear a respirator conforming to EN140 with type A/P2 filter or better.
Preparation of material for application - Outdoor	: Ensure operation is undertaken outdoors. Avoid carrying out activities involving exposure for more than 1 hour or Ensure operation is undertaken outdoors. Wear a respirator conforming to EN140 with type A/P2 filter or better.
Equipment cleaning and maintenance	: Drain down system prior to equipment break-in or maintenance. Avoid carrying out activities involving exposure for more than 4 hours.
Roller, spreader, flow application - Indoor	: Provide a good standard of controlled ventilation (10 to 15 air changes per hour). Wear a respirator conforming to EN140 with type A/P2 filter or better.
Roller, spreader, flow application - Outdoor	: Ensure operation is undertaken outdoors. Wear a respirator conforming to EN140 with type A/P2 filter or better.
Spraying - Manual - Indoor	: Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings. Wear a respirator conforming to EN140 with type A/P2 filter or better.
Spraying - Manual - Outdoor	: Ensure operation is undertaken outdoors. Wear a full-face respirator conforming to EN136 with Type A/P2 filter or better.

#### Control of environmental exposure

Organisational measures to prevent/limit release from site	: Prevent environmental discharge consistent with regulatory requirements.
Conditions and measures related to external treatment of waste for disposal	: External treatment and disposal of waste should comply with applicable local and/or national regulations. See Section 13 for additional waste treatment information.
Conditions and measures related to external recovery of waste	: External recovery and recycling of waste should comply with applicable local and/or national regulations.

#### Additional information

The exposure scenario for the mixture is based on the following substances: REACH #: 01-2119488216-32
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