

# SAFETY DATA SHEET



## Penguard Express MIO Comp A

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

#### 1.1 Product identifier

**Product name** : Penguard Express MIO Comp A  
**Product code** : 3440  
**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

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

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

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Fax: +47 33 45 72 42  
sdsjotun@jotun.no

#### National contact

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Italy

Tel: +39 040 23 98 111/23 98 203  
Fax: +39 040 4606968  
SDSJotun@jotun.com  
info@jotun.it

#### 1.4 Emergency telephone number

CAV "Ospedale Pediatrico Bambino Gesù" – Roma - Tel. (+39) 06.6859.3726  
CAV "Azienda Ospedaliera Università di Foggia" – Foggia - Tel. 800.183.459  
CAV "Azienda Ospedaliera A. Cardarelli" – Napoli - Tel. (+39) 081.545.3333  
CAV Policlinico "Umberto I" – Roma - Tel. (+39) 06.4997.8000  
CAV Policlinico "A. Gemelli" – Roma - Tel. (+39) 06.305.4343  
CAV Azienda Ospedaliera "Careggi" U.O. Tossicologia Medica – Firenze - Tel. (+39) 055.794.7819  
CAV Centro Nazionale di Informazione Tossicologica – Pavia - Tel. (+39) 0382.24.444  
CAV Ospedale Niguarda – Milano - Tel. (+39) 02.66.1010.29  
CAV Azienda Ospedaliera Papa Giovanni XXIII – Bergamo - Tel. 800.88.33.00  
CAV Centro Antiveneni Veneto – Verona - Tel. 800.011.858

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## 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

Skin Irrit. 2, H315

Eye Irrit. 2, H319

Skin Sens. 1, H317

Aquatic Chronic 3, H412

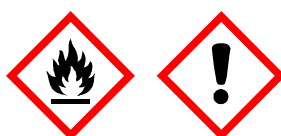
The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

### 2.2 Label elements

**Hazard pictograms** :



**Signal word** : Warning.

**Hazard statements** :  
 H226 - Flammable liquid and vapour.  
 H315 - Causes skin irritation.  
 H317 - May cause an allergic skin reaction.  
 H319 - Causes serious eye irritation.  
 H412 - Harmful to aquatic life with long lasting effects.

#### Precautionary statements

**General** : Not applicable.

**Prevention** :  
 P280 - Wear protective gloves. Wear eye or face protection.  
 P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
 P273 - Avoid release to the environment.  
 P261 - Avoid breathing vapour.

**Response** :  
 P362 + P364 - Take off contaminated clothing and wash it before reuse.  
 P302 + P352 - IF ON SKIN: Wash with plenty of water.  
 P333 + P313 - If skin irritation or rash occurs: Get medical advice or attention.  
 P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P337 + P313 - If eye irritation persists: Get medical advice or attention.

**Storage** : P403 + P235 - Store in a well-ventilated place. Keep cool.

**Disposal** : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

**Hazardous ingredients** :  
 epoxy resin (MW ≤ 700)  
 epoxy resin (MW 700-1200)  
 benzyl alcohol  
 hydrocarbons, c9-unsatd., polymd.

**Supplemental label elements** :  
 EUH205 - Contains epoxy constituents. May produce an allergic reaction.  
 EUH211 - Warning! Hazardous respirable droplets may be formed when sprayed.  
 Do not breathe spray or mist.

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

#### Special packaging requirements

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**SECTION 2: Hazards identification**

**Containers to be fitted with child-resistant fastenings** : Not applicable.

**Tactile warning of danger** : Not applicable.

**2.3 Other hazards**

**Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII** : This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

**Other hazards which do not result in classification** : None known.

The mixture may be a skin sensitiser. It may also be a skin irritant and repeated contact may increase this effect.

**SECTION 3: Composition/information on ingredients****3.2 Mixtures** : Mixture

Product/ingredient name	Identifiers	%	Classification	Specific Conc. Limits, M-factors and ATEs	Type
epoxy resin (MW ≤ 700)	REACH #: 01-2119456619-26 EC: 216-823-5 CAS: 1675-54-3 Index: 603-073-00-2	<25	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1B, H317 Aquatic Chronic 2, H411	Skin Irrit. 2, H315: C ≥ 5% Eye Irrit. 2, H319: C ≥ 5%	[1]
xylene	REACH #: 01-2119488216-32 EC: 215-535-7 CAS: 1330-20-7 Index: 601-022-00-9	≤10	Flam. Liq. 3, H226 Acute Tox. 4, H312 Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 Asp. Tox. 1, H304 Aquatic Chronic 3, H412	ATE [Dermal] = 1100 mg/kg ATE [Inhalation (vapours)] = 11 mg/l	[1] [2]
epoxy resin (MW 700-1200)	CAS: 25036-25-3	≤5	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317	-	[1]
ethylbenzene	REACH #: 01-2119489370-35 EC: 202-849-4 CAS: 100-41-4 Index: 601-023-00-4	≤5	Flam. Liq. 2, H225 Acute Tox. 4, H332 STOT RE 2, H373 (hearing organs) Asp. Tox. 1, H304 Aquatic Chronic 3, H412	ATE [Inhalation (vapours)] = 11 mg/l	[1] [2]
quartz, alveolar (>10 µm)	EC: 238-878-4 CAS: 14808-60-7	≤3	Not classified.	-	[2]
benzyl alcohol	REACH #: 01-2119492630-38 EC: 202-859-9 CAS: 100-51-6 Index: 603-057-00-5	≤3	Acute Tox. 4, H302 Eye Irrit. 2, H319 Skin Sens. 1B, H317	ATE [Oral] = 1200 mg/kg	[1]
1-methoxy-2-propanol	REACH #: 01-2119457435-35 EC: 203-539-1	≤3	Flam. Liq. 3, H226 STOT SE 3, H336	-	[1] [2]

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**SECTION 3: Composition/information on ingredients**

hydrocarbons, c9-unsatd., polymd.	CAS: 107-98-2 Index: 603-064-00-3  REACH #: 01-2119555292-40 EC: 701-299-7 CAS: 71302-83-5	≤3	Skin Sens. 1, H317 Aquatic Chronic 3, H412  <b>See Section 16 for the full text of the H statements declared above.</b>	-	[1]
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There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs, vPvBs or Substances of equivalent concern, or have been assigned a workplace exposure limit and hence require reporting in this section.

Type

[1] Substance classified with a health or environmental hazard

[2] Substance with a workplace exposure limit

This mixture contains ≥ 1% of titanium dioxide. The Annex VI classification of titanium dioxide does not apply to this mixture according to Note 10.

Occupational exposure limits, if available, are listed in Section 8.

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

- General** : In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and seek medical advice.
- Eye contact** : Remove contact lenses, irrigate copiously with clean, fresh water, holding the eyelids apart for at least 10 minutes and seek immediate medical advice.
- Inhalation** : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.
- Skin contact** : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognised skin cleanser. Do NOT use solvents or thinners.
- Ingestion** : If swallowed, seek medical advice immediately and show the container or label. Keep person warm and at rest. Do NOT induce vomiting.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

**4.2 Most important symptoms and effects, both acute and delayed**Over-exposure signs/symptoms

- 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.

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

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

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## SECTION 4: First aid measures

**Specific treatments** : No specific treatment.

See toxicological information (Section 11)

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

**Suitable extinguishing media** : Recommended: alcohol-resistant foam, CO<sub>2</sub>, powders, water spray.

**Unsuitable extinguishing media** : Do not use water jet.

### 5.2 Special hazards arising from the substance or mixture

**Hazards from the substance or mixture** : Fire will produce dense black smoke. Exposure to decomposition products may cause a health hazard.

**Hazardous combustion products** : Decomposition products may include the following materials: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen.

### 5.3 Advice for firefighters

**Special protective actions for fire-fighters** : Cool closed containers exposed to fire with water. Do not release runoff from fire to drains or watercourses.

**Special protective equipment for fire-fighters** : Appropriate breathing apparatus may be required.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

**For non-emergency personnel** : Exclude sources of ignition and ventilate the area. Avoid breathing vapour or mist. Refer to protective measures listed in sections 7 and 8.

**For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

### 6.2 Environmental precautions

: Do not allow to enter drains or watercourses. If the product contaminates lakes, rivers, or sewers, inform the appropriate authorities in accordance with local regulations.

### 6.3 Methods and material for containment and cleaning up

: Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Preferably clean with a detergent. Avoid using solvents.

### 6.4 Reference to other sections

: See Section 1 for emergency contact information.  
See Section 8 for information on appropriate personal protective equipment.  
See Section 13 for additional waste treatment information.

## SECTION 7: Handling and storage

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).

### 7.1 Precautions for safe handling

## SECTION 7: Handling and storage

Prevent the creation of flammable or explosive concentrations of vapours in air and avoid vapour concentrations higher than the occupational exposure limits.

In addition, the product should only be used in areas from which all naked lights and other sources of ignition have been excluded. Electrical equipment should be protected to the appropriate standard.

Mixture may charge electrostatically: always use earthing leads when transferring from one container to another. Operators should wear antistatic footwear and clothing and floors should be of the conducting type.

Keep away from heat, sparks and flame. No sparking tools should be used.

Avoid contact with skin and eyes. Avoid the inhalation of dust, particulates, spray or mist arising from the application of this mixture. Avoid inhalation of dust from sanding.

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed.

Put on appropriate personal protective equipment (see Section 8).

Never use pressure to empty. Container is not a pressure vessel.

Always keep in containers made from the same material as the original one.

Comply with the health and safety at work laws.

Do not allow to enter drains or watercourses.

**Information on fire and explosion protection**

Vapours are heavier than air and may spread along floors. Vapours may form explosive mixtures with air.

When operators, whether spraying or not, have to work inside the spray booth, ventilation is unlikely to be sufficient to control particulates and solvent vapour in all cases. In such circumstances they should wear a compressed air-fed respirator during the spraying process and until such time as the particulates and solvent vapour concentration has fallen below the exposure limits.

### 7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations.

#### Notes on joint storage

Keep away from: oxidising agents, strong alkalis, strong acids.

#### Additional information on storage conditions

Observe label precautions. Store in a dry, cool and well-ventilated area. Keep away from heat and direct sunlight. Keep away from sources of ignition. No smoking. Prevent unauthorised access. Containers that have been opened must be carefully resealed and kept upright to prevent leakage.

### Seveso Directive - Reporting thresholds

#### Danger criteria

Category	Notification and MAPP threshold	Safety report threshold
P5c	5000 tonne	50000 tonne

See Technical Data Sheet / packaging for further information.

### 7.3 Specific end use(s)

**Recommendations** : Not available.

**Industrial sector specific solutions** : Not available.

## SECTION 8: Exposure controls/personal protection

The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

### 8.1 Control parameters

#### Occupational exposure limits

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

Product/ingredient name	Exposure limit values
xylene	<b>Legislative Decree No. 819/2008. Title IX. Protection from chemical agents, carcinogens and mutagens (Italy, 6/2020).</b> <b>[Xilene, isomeri misti, puro] Absorbed through skin.</b> Short Term: 442 mg/m <sup>3</sup> 15 minutes. Short Term: 100 ppm 15 minutes. Limit value: 221 mg/m <sup>3</sup> 8 hours. Limit value: 50 ppm 8 hours.
ethylbenzene	<b>Legislative Decree No. 819/2008. Title IX. Protection from chemical agents, carcinogens and mutagens (Italy, 6/2020).</b> <b>Absorbed through skin.</b> Limit value: 100 ppm 8 hours. Limit value: 442 mg/m <sup>3</sup> 8 hours. Short Term: 200 ppm 15 minutes. Short Term: 884 mg/m <sup>3</sup> 15 minutes.
Quartz (SiO <sub>2</sub> )	<b>Legislative Decree No. 819/2008. Title IX. Protection from chemical agents, carcinogens and mutagens (Italy, 6/2020).</b> <b>[silice cristallina]</b> Limit value: 0.1 mg/m <sup>3</sup> 8 hours. Form: respirable fraction
1-methoxy-2-propanol	<b>Legislative Decree No. 819/2008. Title IX. Protection from chemical agents, carcinogens and mutagens (Italy, 6/2020).</b> <b>Absorbed through skin.</b> Short Term: 568 mg/m <sup>3</sup> 15 minutes. Short Term: 150 ppm 15 minutes. Limit value: 375 mg/m <sup>3</sup> 8 hours. Limit value: 100 ppm 8 hours.

**Recommended monitoring procedures** : Reference should be made to monitoring standards, such as the following:  
European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

**DNELs/DMELs**

Product/ingredient name	Type	Exposure	Value	Population	Effects
epoxy resin (MW ≤ 700)	DNEL	Long term Dermal	89.3 µg/kg bw/day	General population	Systemic
	DNEL	Long term Oral	0.5 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	0.75 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	0.87 mg/m <sup>3</sup>	General population	Systemic
	DNEL	Long term Inhalation	4.93 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Long term Oral	5 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	65.3 mg/m <sup>3</sup>	General population	Local
	DNEL	Long term Inhalation	65.3 mg/m <sup>3</sup>	General population	Systemic
	DNEL	Long term Dermal	125 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	212 mg/kg bw/day	Workers	Systemic
	DNEL	Long term	221 mg/m <sup>3</sup>	Workers	Local
	DNEL	Long term			
xylene					



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

ethylbenzene	DNEL	Inhalation Long term	221 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Inhalation Short term	260 mg/m <sup>3</sup>	General population	Local
	DNEL	Inhalation Short term	260 mg/m <sup>3</sup>	General population	Systemic
	DNEL	Inhalation Short term	442 mg/m <sup>3</sup>	Workers	Local
	DNEL	Inhalation Short term	442 mg/m <sup>3</sup>	Workers	Systemic
	DMEL	Inhalation Long term	442 mg/m <sup>3</sup>	Workers	Local
	DMEL	Inhalation Short term	884 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Long term Oral	1.6 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	15 mg/m <sup>3</sup>	General population	Systemic
	DNEL	Long term Inhalation	77 mg/m <sup>3</sup>	Workers	Systemic
benzyl alcohol	DNEL	Long term Dermal	180 mg/kg bw/day	Workers	Systemic
	DNEL	Short term Inhalation	293 mg/m <sup>3</sup>	Workers	Local
	DNEL	Long term Oral	4 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	4 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	5.4 mg/m <sup>3</sup>	General population	Systemic
	DNEL	Long term Dermal	8 mg/kg bw/day	Workers	Systemic
	DNEL	Short term Oral	20 mg/kg bw/day	General population	Systemic
	DNEL	Short term Dermal	20 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	22 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Short term Inhalation	27 mg/m <sup>3</sup>	General population	Systemic
1-methoxy-2-propanol	DNEL	Short term Dermal	40 mg/kg bw/day	Workers	Systemic
	DNEL	Short term Inhalation	110 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Long term Oral	33 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	43.9 mg/m <sup>3</sup>	General population	Systemic
	DNEL	Long term Dermal	78 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	183 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	369 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Short term Inhalation	553.5 mg/m <sup>3</sup>	Workers	Local
	DNEL	Short term Inhalation	553.5 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Long term Dermal	3.5 mg/kg bw/day	Workers	Systemic
hydrocarbons, c9-unsatd., polymd.	DNEL	Long term Inhalation	1.41 mg/m <sup>3</sup>	Workers	Systemic



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

Product/ingredient name	Compartment Detail	Value	Method Detail
epoxy resin (MW ≤ 700)	Fresh water	0.006 mg/l	-
	Marine	0.0006 mg/l	-
	Sewage Treatment Plant	10 mg/l	-
xylene	Fresh water sediment	0.996 mg/l	-
	Marine water sediment	0.0996 mg/l	-
	Soil	0.196 mg/l	-
ethylbenzene	Fresh water	0.327 mg/l	-
	Marine	0.327 mg/l	-
	Sewage Treatment Plant	6.58 mg/l	-
benzyl alcohol	Fresh water sediment	12.46 mg/kg dwt	-
	Marine water sediment	12.46 mg/kg dwt	-
	Soil	2.31 mg/kg dwt	-
1-methoxy-2-propanol	Fresh water	0.1 mg/l	-
	Marine	0.01 mg/l	-
	Sewage Treatment Plant	9.6 mg/l	-
hydrocarbons, c9-unsatd., polymd.	Fresh water sediment	13.7 mg/kg dwt	-
	Soil	2.68 mg/kg dwt	-
	Secondary Poisoning	20 mg/kg	-
	Fresh water	1 mg/l	-
	Marine	0.1 mg/l	-
	Sewage Treatment Plant	39 mg/l	-
	Fresh water sediment	5.27 mg/kg dwt	-
	Marine water sediment	0.527 mg/kg dwt	-
	Soil	0.456 mg/kg dwt	-
	Fresh water	10 mg/l	-
	Marine	1 mg/l	-
	Sewage Treatment Plant	100 mg/l	-
	Fresh water sediment	52.3 mg/kg dwt	-
	Marine water sediment	5.2 mg/kg dwt	-
	Soil	5.49 mg/kg dwt	-
	Fresh water	54 µg/l	-
	Marine	5.4 µg/l	-
	Sewage Treatment Plant	2.2 mg/l	-
	Fresh water sediment	1584 mg/kg dwt	-
	Marine water sediment	158 mg/kg dwt	-
	Soil	316.7 mg/kg dwt	-
	Secondary Poisoning	200 mg/kg	-

**8.2 Exposure controls****Appropriate engineering controls**

: Provide adequate ventilation. Where reasonably practicable, this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and solvent vapours below the OEL, suitable respiratory protection must be worn.

**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.

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

**Eye/face protection** : Safety eyewear complying to ISO 16321-1:2022 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.

**Gloves**

☑ Wear suitable gloves tested to ISO 374-1:2016.

May be used, gloves(breakthrough time) 4 - 8 hours: neoprene (> 0.35 mm), butyl rubber (> 0.4 mm), PVC (> 0.5 mm)

Recommended, gloves(breakthrough time) > 8 hours: Viton® (> 0.7 mm), nitrile rubber (> 0.75 mm), 4H/Silver Shield® (> 0.07 mm), Teflon (> 0.35 mm), polyvinyl alcohol (PVA) (> 0.3 mm)

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** : Use chemical-resistant protective suit / disposable overall.

Personnel should wear antistatic clothing made of natural fibres or of high-temperature-resistant synthetic fibres.

**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 charcoal filter.

**Environmental exposure controls** : Do not allow to enter drains or watercourses.

**SECTION 9: Physical and chemical properties**

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

**9.1 Information on basic physical and chemical properties****Appearance**

**Physical state** : Liquid.

**Colour** : Grey, Red

**Odour** : Characteristic.

**Odour threshold** : Not applicable.

**Melting point/freezing point** : ☑ Not available.

**Initial boiling point and boiling range** : Lowest known value: 120.17°C (248.3°F) (1-methoxy-2-propanol). Weighted average: 214.79°C (418.6°F)

Not applicable.

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**SECTION 9: Physical and chemical properties**

<b>Flammability</b>	:	
<b>Lower and upper explosion limit</b>	:	Greatest known range: Lower: 1.48% Upper: 13.74% (1-methoxy-2-propanol)
<b>Flash point</b>	:	Closed cup: 32°C
<b>Auto-ignition temperature</b>	:	Lowest known value: 270°C (518°F) (1-methoxy-2-propanol).
<b>Decomposition temperature</b>	:	Not available.
<b>pH</b>	:	Not applicable.
<b>Viscosity</b>	:	Kinematic (40°C): >20.5 mm <sup>2</sup> /s
<b>Solubility in water</b>	:	cold water Not soluble hot water Not soluble
<b>Partition coefficient: n-octanol/ water</b>	:	Not available.
<b>Vapour pressure</b>	:	Highest known value: 1.2 kPa (9.3 mm Hg) (at 20°C) (ethylbenzene). Weighted average: 0.43 kPa (3.23 mm Hg) (at 20°C)
<b>Evaporation rate</b>	:	Highest known value: 0.84 (ethylbenzene) Weighted average: 0.67 compared with butyl acetate
<b>Density</b>	:	1.649 to 1.702 g/cm <sup>3</sup>
<b>Vapour density</b>	:	Highest known value: 11.7 (Air = 1) (epoxy resin (MW ≤ 700)). Weighted average: 7.43 (Air = 1)
<b>Explosive properties</b>	:	Not available.
<b>Oxidising properties</b>	:	Not available.
<b>Particle characteristics</b>		
<b>Median particle size</b>	:	Not applicable.

**9.2 Other information**

No additional information.

**SECTION 10: Stability and reactivity**

<b>10.1 Reactivity</b>	:	No specific test data related to reactivity available for this product or its ingredients.
<b>10.2 Chemical stability</b>	:	Stable under recommended storage and handling conditions (see Section 7).
<b>10.3 Possibility of hazardous reactions</b>	:	Under normal conditions of storage and use, hazardous reactions will not occur.
<b>10.4 Conditions to avoid</b>	:	When exposed to high temperatures may produce hazardous decomposition products.
<b>10.5 Incompatible materials</b>	:	Keep away from the following materials to prevent strong exothermic reactions: oxidising agents, strong alkalis, strong acids.
<b>10.6 Hazardous decomposition products</b>	:	Decomposition products may include the following materials: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen.

**SECTION 11: Toxicological information****11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008****Acute toxicity**

Product/ingredient name	Result	Species	Dose	Exposure
epoxy resin (MW ≤ 700)	LD50 Dermal	Rabbit	20 g/kg	-
	LD50 Oral	Mouse	15600 mg/kg	-
xylene	LC50 Inhalation Vapour	Rat	11 mg/l	4 hours
	LD50 Oral	Rat	4300 mg/kg	-
	TDLo Dermal	Rabbit	4300 mg/kg	-
ethylbenzene	LC50 Inhalation Vapour	Rat - Male	11 mg/l	4 hours
	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	3500 mg/kg	-
benzyl alcohol	LD50 Oral	Rat	1230 mg/kg	-

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1-methoxy-2-propanol	LD50 Dermal	Rabbit	13 g/kg	-
	LD50 Oral	Rat	6600 mg/kg	-
hydrocarbons, c9-unsatd., polymd.	LD50 Dermal	Rat	2000 mg/kg	-
	LD50 Oral	Rat	2000 mg/kg	-

**Acute toxicity estimates**

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
Penguard Express MIO Comp A	47188.4	11922.9	N/A	89.4	N/A
xylene	4300	1100	N/A	11	N/A
ethylbenzene	3500	N/A	N/A	11	N/A
benzyl alcohol	1200	N/A	N/A	N/A	N/A
1-methoxy-2-propanol	6600	13000	N/A	N/A	N/A

**Irritation/Corrosion**

Product/ingredient name	Result	Species	Score	Exposure	Observation
epoxy resin (MW ≤ 700)	Eyes - Severe irritant	Rabbit	-	24 hours 2 milligrams	-
	Skin - Mild irritant	Rabbit	-	500 milligrams	-
xylene	Eyes - Mild irritant	Rabbit	-	87 milligrams	-
	Skin - Mild irritant	Rat	-	8 hours 60 microliters	-
epoxy resin (MW 700-1200)	Eyes - Mild irritant	Mammal - species unspecified	-	-	-
	Skin - Mild irritant	Mammal - species unspecified	-	-	-
benzyl alcohol	Eyes - Mild irritant	Mammal - species unspecified	-	-	-
1-methoxy-2-propanol	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
	Skin - Mild irritant	Rabbit	-	500 mg	-

**Sensitisation**

Product/ingredient name	Route of exposure	Species	Result
epoxy resin (MW ≤ 700)	skin	Mammal - species unspecified	Sensitising
epoxy resin (MW 700-1200)	skin	Mammal - species unspecified	Sensitising
hydrocarbons, c9-unsatd., polymd.	skin	Mouse	Sensitising

**Mutagenicity**

No known significant effects or critical hazards.

**Carcinogenicity**

No known significant effects or critical hazards.

**Reproductive toxicity****Developmental effects** : No known significant effects or critical hazards.**Fertility effects** : No known significant effects or critical hazards.**Teratogenicity**

No known significant effects or critical hazards.

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

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Product/ingredient name	Category	Route of exposure	Target organs
xylene	Category 3	-	Respiratory tract irritation
1-methoxy-2-propanol	Category 3	-	Narcotic effects

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

Product/ingredient name	Category	Route of exposure	Target organs
ethylbenzene	Category 2	-	hearing organs

**Aspiration hazard**

Product/ingredient name	Result
xylene	ASPIRATION HAZARD - Category 1
ethylbenzene	ASPIRATION HAZARD - Category 1

**11.2 Information on other hazards****11.2.1 Endocrine disrupting properties**

Not available.

**11.2.2 Other information**

Not available.

**SECTION 12: Ecological information****12.1 Toxicity**

There are no data available on the mixture itself.

Do not allow to enter drains or watercourses.

The mixture has been assessed following the summation method of the CLP Regulation (EC) No 1272/2008 and is classified for eco-toxicological properties accordingly. See Sections 2 and 3 for details.

Product/ingredient name	Result	Species	Exposure
epoxy resin (MW ≤ 700)	Acute EC50 1.4 mg/l Acute LC50 3.1 mg/l Chronic NOEC 0.3 mg/l	Daphnia	48 hours
xylene	Acute LC50 8500 µg/l Marine water	Fish - pimephales promelas	96 hours
		Fish	21 days
		Crustaceans - Palaemonetes pugio	48 hours
ethylbenzene	Acute LC50 13400 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Acute EC50 7700 µg/l Marine water	Algae - Skeletonema costatum	96 hours
	Acute EC50 2.93 mg/l	Daphnia	48 hours
	Acute LC50 4.2 mg/l	Fish	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
epoxy resin (MW ≤ 700)	-	-	Not readily
xylene	-	-	Readily
ethylbenzene	-	-	Readily
benzyl alcohol	-	-	Readily

**12.3 Bioaccumulative potential**

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**SECTION 12: Ecological information**

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
epoxy resin (MW ≤ 700)	2.64 to 3.78	31	low
xylene	3.12	8.1 to 25.9	low
ethylbenzene	3.6	-	low
benzyl alcohol	0.87	<100	low
1-methoxy-2-propanol	<1	-	low
hydrocarbons, c9-unsatd., polymd.	3.627	-	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**

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

**12.6 Endocrine disrupting properties**

Not available.

**12.7 Other adverse effects**

No known significant effects or critical hazards.

**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****Product**

**Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

**Hazardous waste** : Yes.

**Disposal considerations** : Do not allow to enter drains or watercourses. Dispose of according to all federal, state and local applicable regulations. If this product is mixed with other wastes, the original waste product code may no longer apply and the appropriate code should be assigned. For further information, contact your local waste authority.

**European waste catalogue (EWC)**

The European Waste Catalogue classification of this product, when disposed of as waste, is:

Waste code	Waste designation
08 01 11*	Waste paint and varnish containing organic solvents or other dangerous substances

**Packaging**

**Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

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**SECTION 13: Disposal considerations**

**Disposal considerations** : Using information provided in this safety data sheet, advice should be obtained from the relevant waste authority on the classification of empty containers. Empty containers must be scrapped or reconditioned. Dispose of containers contaminated by the product in accordance with local or national legal provisions.

Type of packaging	European waste catalogue (EWC)
CEPE Guidelines	15 01 10* packaging containing residues of or contaminated by hazardous substances

**Special precautions** : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapour from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

**SECTION 14: Transport information**

	ADR/RID	ADN	IMDG	IATA
<b>14.1 UN number or ID number</b>	UN1263	UN1263	UN1263	UN1263
<b>14.2 UN proper shipping name</b>	Paint	Paint	Paint	Paint
<b>14.3 Transport hazard class(es)</b>	3 	3 	3 	3 
<b>14.4 Packing group</b>	III	III	III	III
<b>14.5 Environmental hazards</b>	No.	Yes.	No.	No.

**Additional information****ADR/RID**

**Hazard identification number** 30  
**Viscous liquid exception** This class 3 viscous liquid is not subject to regulation in packagings up to 450 L according to 2.2.3.1.5.1.  
**Tunnel code** (D/E)  
 ADR/RID: Viscous substance. Not goods of class 3, ref. 2.2.3.1.5 (only applicable to receptacles < 450 litre capacity).

**ADN**

The product is only regulated as an environmentally hazardous substance when transported in tank vessels.  
**Viscous liquid exception** This class 3 viscous liquid is not subject to regulation in packagings up to 450 L according to 2.2.3.1.5.1.

**IMDG**

**Emergency schedules** F-E, S-E  
**Viscous liquid exception** This class 3 viscous liquid is not subject to regulation in packagings up to 450 L according to 2.3.2.5.  
 IMDG: Viscous substance. Transport in accordance with 2.3.2.5 of the IMDG Code (only applicable to receptacles < 450 litre capacity).

**UN**

**Viscous liquid exception** This class 3 viscous liquid is not subject to regulation in packagings up to 450 L according to 2.3.2.5.1.



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## SECTION 14: Transport information

**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.

**14.7 Maritime transport in bulk according to IMO instruments** : 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

###### Annex XIV

None of the components are listed.

###### 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

**VOC** : The provisions of Directive 2004/42/EC on VOC apply to this product. Refer to the product label and/or technical data sheet for further information.

**VOC for Ready-for-Use Mixture** : Not available.

**Industrial emissions (integrated pollution prevention and control) - Air** : Not listed

**Industrial emissions (integrated pollution prevention and control) - Water** : Not listed

#### Ozone depleting substances (1005/2009/EU)

Not listed.

#### Prior Informed Consent (PIC) (649/2012/EU)

Not listed.

#### Persistent Organic Pollutants

Not listed.

#### Seveso Directive

This product may add to the calculation for determining whether a site is within the scope of the Seveso Directive on major accident hazards.

#### National regulations

**Industrial use** : The information contained in this safety data sheet does not constitute the user's own assessment of workplace risks, as required by other health and safety legislation. The provisions of the national health and safety at work regulations apply to the use of this product at work.

**D.Lgs. 152/06** : Not determined.

#### International regulations

*Penguard Express MIO Comp A***SECTION 15: Regulatory information****Chemical Weapon Convention List Schedules I, II & III Chemicals**

Not listed.

**Montreal Protocol**

Not listed.

**Stockholm Convention on Persistent Organic Pollutants**

Not listed.

**Rotterdam Convention on Prior Informed Consent (PIC)**

Not listed.

**UNECE Aarhus Protocol on POPs and Heavy Metals**

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]  
 DMEL = Derived Minimal Effect Level  
 DNEL = Derived No Effect Level  
 EUH statement = CLP-specific Hazard statement  
 N/A = Not available  
 PBT = Persistent, Bioaccumulative and Toxic  
 PNEC = Predicted No Effect Concentration  
 RRN = REACH Registration Number  
 SGG = Segregation Group  
 vPvB = Very Persistent and Very Bioaccumulative

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

Classification	Justification
Flam. Liq. 3, H226 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 Aquatic Chronic 3, H412	On basis of test data Calculation method Calculation method Calculation method 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.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
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.

**Full text of classifications [CLP/GHS]**

*Penguard Express MIO Comp A***SECTION 16: Other information**

Acute Tox. 4	ACUTE TOXICITY - Category 4
Aquatic Chronic 2	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2
Aquatic Chronic 3	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3
Asp. Tox. 1	ASPIRATION HAZARD - Category 1
Eye Irrit. 2	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
Flam. Liq. 2	FLAMMABLE LIQUIDS - Category 2
Flam. Liq. 3	FLAMMABLE LIQUIDS - Category 3
Skin Irrit. 2	SKIN CORROSION/IRRITATION - Category 2
Skin Sens. 1	SKIN SENSITISATION - Category 1
Skin Sens. 1B	SKIN SENSITISATION - Category 1B
STOT RE 2	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2
STOT SE 3	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 3

**Date of printing** : 22.07.2025**Date of issue/ Date of revision** : 22.07.2025**Date of previous issue** : 22.03.2023**Version** : 2**Notice to reader**

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