

## Penguard Midcoat MIO Comp A

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

#### 1.1 Product identifier

|                                      |                               |
|--------------------------------------|-------------------------------|
| <b>Product name</b>                  | : Penguard Midcoat MIO Comp A |
| <b>UFI</b>                           | : SSR5-20MG-P00E-2KDU         |
| <b>Product code</b>                  | : 2082                        |
| <b>Product description</b>           | : Paint.                      |
| <b>Product type</b>                  | : Liquid.                     |
| <b>Other means of identification</b> | : 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

Jotun A/S  
P.O.Box 2021  
3202 Sandefjord  
Norway

Tel: + 47 33 45 70 00  
Fax: +47 33 45 72 42  
E-mail: SDSJotun@jotun.no

#### National contact

Jotun Paints Europe (Ltd).  
Unit K7, Marina Commercial Park  
Centre Park Road  
Cork  
Ireland

Tel: +353 214 965955  
Fax: +353 214 965992

SDSJotun@jotun.com

#### 1.4 Emergency telephone number

Poisons Information Centre of Ireland: +353 1 809 3000 (8am-10pm, 7 days a week)

### 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 Dam. 1, H318  
Skin Sens. 1, H317  
Aquatic Chronic 3, H412

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

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## SECTION 2: Hazards identification

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** :

Danger.

**Hazard statements** :

H226 - Flammable liquid and vapour.  
 H315 - Causes skin irritation.  
 H317 - May cause an allergic skin reaction.  
 H318 - Causes serious eye damage.  
 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, P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.

**Storage** :

Not applicable.

**Disposal** :

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

**Hazardous ingredients** :

epoxy resin (MW ≤ 700)  
 2-methylpropan-1-ol

**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**

**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.

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**SECTION 2: Hazards identification**

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 #:<br>01-2119456619-26<br>EC: 216-823-5<br>CAS: 1675-54-3<br>Index: 603-073-00-2 | ≥10 - <25 | Skin Irrit. 2, H315<br>Eye Irrit. 2, H319<br>Skin Sens. 1B, H317<br>Aquatic Chronic 2, H411  | Skin Irrit. 2, H315:<br>C ≥ 5%<br>Eye Irrit. 2, H319:<br>C ≥ 5%         | [1]     |
| xylene                  | REACH #:<br>01-2119488216-32<br>EC: 215-535-7<br>CAS: 1330-20-7<br>Index: 601-022-00-9 | ≤5        | Flam. Liq. 3, H226<br>Acute Tox. 4, H312<br>Acute Tox. 4, H332<br>Skin Irrit. 2, H315<br>Eye Irrit. 2, H319<br>STOT SE 3, H335<br>Asp. Tox. 1, H304<br>Aquatic Chronic 3, H412   | ATE [Dermal] =<br>1100 mg/kg<br>ATE [Inhalation<br>(vapours)] = 20 mg/l | [1] [2] |
| 2-methylpropan-1-ol     | REACH #:<br>01-2119484609-23<br>EC: 201-148-0<br>CAS: 78-83-1<br>Index: 603-108-00-1   | ≤5        | Flam. Liq. 3, H226<br>Skin Irrit. 2, H315<br>Eye Dam. 1, H318<br>STOT SE 3, H335<br>STOT SE 3, H336  | -   | [1] [2] |
| benzyl alcohol          | REACH #:<br>01-2119492630-38<br>EC: 202-859-9<br>CAS: 100-51-6<br>Index: 603-057-00-5  | ≤3        | Acute Tox. 4, H302<br>Acute Tox. 4, H332<br>Eye Irrit. 2, H319   | ATE [Oral] = 1230<br>mg/kg<br>ATE [Inhalation<br>(vapours)] = 11 mg/l   | [1]     |
| ethylbenzene            | REACH #:<br>01-2119489370-35<br>EC: 202-849-4<br>CAS: 100-41-4<br>Index: 601-023-00-4  | ≤3        | Flam. Liq. 2, H225<br>Acute Tox. 4, H332<br>STOT RE 2, H373<br>(hearing organs)<br>Asp. Tox. 1, H304<br>Aquatic Chronic 3, H412<br><b>See Section 16 for<br/>the full text of the H<br/>statements declared<br/>above.</b> | ATE [Inhalation<br>(vapours)] = 17.8<br>mg/l                            | [1] [2] |

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** : Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek immediate medical attention.
- 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. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. 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

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.

Based on the properties of the epoxy constituent(s) and considering toxicological data on similar mixtures, this mixture may be a skin sensitiser and an irritant. It contains low molecular weight epoxy constituents which are irritating to eyes, mucous membrane and skin. Repeated skin contact may lead to irritation and to sensitisation, possibly with cross-sensitisation to other epoxies. Skin contact with the mixture and exposure to spray mist and vapour should be avoided.

Contains epoxy resin (MW ≤ 700). May produce an allergic reaction.

#### Over-exposure signs/symptoms

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

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## SECTION 4: First aid measures

### 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.
- 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.

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## 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

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

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## SECTION 8: Exposure controls/personal protection

| Product/ingredient name | Exposure limit values   |
|-------------------------|---|
| xylene                  | <b>EH40/2005 WELs (United Kingdom (UK), 1/2020). Absorbed through skin.</b><br>STEL: 441 mg/m <sup>3</sup> 15 minutes.<br>STEL: 100 ppm 15 minutes.<br>TWA: 220 mg/m <sup>3</sup> 8 hours.<br>TWA: 50 ppm 8 hours.  |
| 2-methylpropan-1-ol     | <b>EH40/2005 WELs (United Kingdom (UK), 1/2020).</b><br>STEL: 231 mg/m <sup>3</sup> 15 minutes.<br>STEL: 75 ppm 15 minutes.<br>TWA: 154 mg/m <sup>3</sup> 8 hours.<br>TWA: 50 ppm 8 hours.                          |
| ethylbenzene            | <b>EH40/2005 WELs (United Kingdom (UK), 1/2020). Absorbed through skin.</b><br>STEL: 552 mg/m <sup>3</sup> 15 minutes.<br>STEL: 125 ppm 15 minutes.<br>TWA: 100 ppm 8 hours.<br>TWA: 441 mg/m <sup>3</sup> 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           |          |
|                         | xylene | DNEL                 | Long term Inhalation   | 65.3 mg/m <sup>3</sup> | General population | Local    |
|                         |        | DNEL                 | Short term Inhalation  | 260 mg/m <sup>3</sup>  | General population | Local    |
|                         |        | DNEL                 | Short term Inhalation  | 260 mg/m <sup>3</sup>  | General population | Systemic |
|                         |        | DNEL                 | Long term Inhalation   | 221 mg/m <sup>3</sup>  | Workers            | Local    |
|                         |        | DNEL                 | Long term Oral         | 12.5 mg/kg bw/day      | General population | Systemic |
|                         |        | 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 Inhalation   | 221 mg/m <sup>3</sup>  | Workers            | Systemic |
|                         |        | DNEL                 | Short term Inhalation  | 442 mg/m <sup>3</sup>  | Workers            | Local    |

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

|                     |                |                       |                           |                      |                    |          |
|---------------------|----------------|-----------------------|---------------------------|----------------------|--------------------|----------|
| 2-methylpropan-1-ol | DNEL           | Inhalation Short term | 442 mg/m <sup>3</sup>     | Workers              | Systemic           |          |
|                     | DNEL           | Inhalation Long term  | 55 mg/m <sup>3</sup>      | General population   | Systemic           |          |
|                     | DNEL           | Inhalation Long term  | 310 mg/m <sup>3</sup>     | Workers              | Systemic           |          |
|                     | DNEL           | Inhalation Long term  | 55 mg/m <sup>3</sup>      | General population   | Local              |          |
|                     | DNEL           | Inhalation Long term  | 310 mg/m <sup>3</sup>     | Workers              | Local              |          |
|                     | benzyl alcohol | DNEL                  | Inhalation 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           |          |
| DNEL                |                | Short term Dermal     | 40 mg/kg bw/day           | Workers              | Systemic           |          |
| DNEL                |                | Short term Inhalation | 110 mg/m <sup>3</sup>     | Workers              | Systemic           |          |
| ethylbenzene        |                | 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           |          |
|                     | DNEL           | Long term Dermal      | 180 mg/kg bw/day          | Workers              | Systemic           |          |
|                     | DNEL           | Short term Inhalation | 293 mg/m <sup>3</sup>     | Workers              | Local              |          |
|                     | DMEL           | Long term Inhalation  | 442 mg/m <sup>3</sup>     | Workers              | Local              |          |
|                     | DMEL           | Short term Inhalation | 884 mg/m <sup>3</sup>     | Workers              | Systemic           |          |

**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                | -             |   |
|                         | Fresh water sediment   | 0.996 mg/l             | -             |   |
|                         | Marine water sediment  | 0.0996 mg/l            | -             |   |
|                         | Soil                   | 0.196 mg/l             | -             |   |
|                         | xylene                 | Fresh water            | 0.327 mg/l    | - |
|                         |                        | Marine                 | 0.327 mg/l    | - |
|                         |                        | Sewage Treatment Plant | 6.58 mg/l     | - |
| Fresh water sediment    |                        | 12.46 mg/kg dwt        | -             |   |
| Marine water sediment   |                        | 12.46 mg/kg dwt        | -             |   |
| Soil                    |                        | 2.31 mg/kg dwt         | -             |   |



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|                     |                        |                  |   |
|---------------------|------------------------|------------------|---|
| 2-methylpropan-1-ol | Fresh water            | 0.4 mg/l         | - |
|                     | Marine                 | 0.04 mg/l        | - |
|                     | Sewage Treatment Plant | 10 mg/l          | - |
|                     | Fresh water sediment   | 1.52 mg/kg dwt   | - |
|                     | Marine water sediment  | 0.152 mg/kg dwt  | - |
|                     | Soil                   | 0.0699 mg/kg dwt | - |
| benzyl alcohol      | 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  | - |
| ethylbenzene        | Fresh water            | 0.1 mg/l         | - |
|                     | Marine                 | 0.01 mg/l        | - |
|                     | Sewage Treatment Plant | 9.6 mg/l         | - |
|                     | Fresh water sediment   | 13.7 mg/kg dwt   | - |
|                     | Soil                   | 2.68 mg/kg dwt   | - |
|                     | Secondary Poisoning    | 20 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.

**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 and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

#### 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

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

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

Recommended, gloves(breakthrough time) > 8 hours: Teflon (> 0.35 mm), Viton® (> 0.7 mm), 4H/Silver Shield® (> 0.07 mm), nitrile rubber (> 0.4 mm)

May be used, gloves(breakthrough time) 4 - 8 hours: neoprene (> 0.35 mm), butyl rubber (> 0.4 mm), PVC (> 0.5 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** : 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 charcoalfilter.
- 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 applicable.
- Initial boiling point and boiling range** : Lowest known value: 108°C (226.4°F) (2-methylpropan-1-ol). Weighted average: 225.27°C (437.5°F)
- Flammability** : Not applicable.
- Lower and upper explosion limit** : 0.8 - 13%
- Flash point** : Closed cup: 25°C
- Auto-ignition temperature** : Lowest known value: 415°C (779°F) (2-methylpropan-1-ol).
- Decomposition temperature** : Not available.
- pH** : Not applicable.
- Viscosity** : Kinematic (40°C): >20.5 mm<sup>2</sup>/s
- Solubility in water** : cold water Not soluble  
hot water Not soluble
- Partition coefficient: n-octanol/water** : Not available.
- Vapour pressure** : Highest known value: <1.6 kPa (<12 mm Hg) (at 20°C) (2-methylpropan-1-ol). Weighted average: 0.39 kPa (2.93 mm Hg) (at 20°C)
- Evaporation rate** : Highest known value: 0.84 (ethylbenzene) Weighted average: 0.61 compared with butyl acetate
- Density** : 1.87 to 2 g/cm<sup>3</sup>

*Penguard Midcoat MIO Comp A***SECTION 9: Physical and chemical properties**

|                                 |  |
|---------------------------------|--|
| <b>Vapour density</b>           | : Highest known value: 11.7 (Air = 1) (epoxy resin (MW ≤ 700)). Weighted average: 8.23 (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**

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.

Based on the properties of the epoxy constituent(s) and considering toxicological data on similar mixtures, this mixture may be a skin sensitiser and an irritant. It contains low molecular weight epoxy constituents which are irritating to eyes, mucous membrane and skin. Repeated skin contact may lead to irritation and to sensitisation, possibly with cross-sensitisation to other epoxies. Skin contact with the mixture and exposure to spray mist and vapour should be avoided.

Contains epoxy resin (MW ≤ 700). May produce an allergic reaction.

**Acute toxicity**

**Penguard Midcoat MIO Comp A****SECTION 11: Toxicological information**

| 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        | 20 mg/l                 | 4 hours  |
|                         | LD50 Oral               | Rat        | 4300 mg/kg              | -        |
| 2-methylpropan-1-ol     | TDL <sub>o</sub> Dermal | Rabbit     | 4300 mg/kg              | -        |
|                         | LC50 Inhalation Vapour  | Rat        | 19200 mg/m <sup>3</sup> | 4 hours  |
|                         | LD50 Dermal             | Rabbit     | 3400 mg/kg              | -        |
| benzyl alcohol          | LD50 Oral               | Rat        | 2460 mg/kg              | -        |
|                         | LD50 Oral               | Rat        | 1230 mg/kg              | -        |
| ethylbenzene            | LC50 Inhalation Vapour  | Rat - Male | 17.8 mg/l               | 4 hours  |
|                         | LD50 Dermal             | Rabbit     | >5000 mg/kg             | -        |
|                         | LD50 Oral               | Rat        | 3500 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 Midcoat MIO Comp A | 62058.5      | 24379.4        | N/A                      | 204.0                       | N/A                                 |
| xylene                      | 4300         | 1100           | N/A                      | 20                          | N/A                                 |
| 2-methylpropan-1-ol         | 2460         | 3400           | N/A                      | N/A                         | N/A                                 |
| benzyl alcohol              | 1230         | N/A            | N/A                      | 11                          | N/A                                 |
| ethylbenzene                | 3500         | N/A            | N/A                      | 17.8                        | 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 | -           |
| 2-methylpropan-1-ol     | Eyes - Irritant        | Mammal - species unspecified | -     | -                      | -           |
|                         | Skin - Mild irritant   | Mammal - species unspecified | -     | -                      | -           |
| benzyl alcohol          | Eyes - Mild irritant   | Mammal - species unspecified | -     | -                      | -           |

**Sensitisation**

| Product/ingredient name | Route of exposure | Species                      | Result      |
|-------------------------|-------------------|------------------------------|-------------|
| epoxy resin (MW ≤ 700)  | skin              | Mammal - species unspecified | 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**

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**SECTION 11: Toxicological information**

No known significant effects or critical hazards.

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

| Product/ingredient name | Category   | Route of exposure | Target organs                |
|-------------------------|------------|-------------------|------------------------------|
| xylene                  | Category 3 | -                 | Respiratory tract irritation |
| 2-methylpropan-1-ol     | Category 3 | -                 | Respiratory tract irritation |
|                         | 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<br>Acute LC50 3.1 mg/l<br>Chronic NOEC 0.3 mg/l              | Daphnia<br>Fish - pimephales promelas<br>Fish         | 48 hours<br>96 hours<br>21 days  |
| xylene                  | Acute LC50 8500 µg/l Marine water  | Crustaceans - Palaemonetes pugio                      | 48 hours                         |
| 2-methylpropan-1-ol     | Acute LC50 13400 µg/l Fresh water<br>Chronic NOEC 4000 µg/l Fresh water          | Fish - Pimephales promelas<br>Daphnia - Daphnia magna | 96 hours<br>21 days              |
| ethylbenzene            | Acute EC50 7700 µg/l Marine water<br>Acute EC50 2.93 mg/l<br>Acute LC50 4.2 mg/l | Algae - Skeletonema costatum<br>Daphnia<br>Fish       | 96 hours<br>48 hours<br>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          |
| benzyl alcohol          | -                 | -          | Readily          |
| ethylbenzene            | -                 | -          | Readily          |

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**SECTION 12: Ecological information****12.3 Bioaccumulative potential**

| 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       |
| 2-methylpropan-1-ol     | 1                  | -           | low       |
| benzyl alcohol          | 0.87               | <100        | low       |
| ethylbenzene            | 3.6                | -           | 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   |
|---------------------------------|--|--|---|--|
| 14.1 UN number or ID number     | UN1263   | UN1263   | UN1263  | UN1263   |
| 14.2 UN proper shipping name    | Paint  | Paint  | Paint   | Paint  |
| 14.3 Transport hazard class(es) | 3<br> | 3<br> | 3<br> | 3<br> |
| 14.4 Packing group              | III  | III  | III   | III  |
| 14.5 Environmental hazards      | No.  | Yes.   | No.   | No.  |

### Additional information

**ADR/RID**

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

ADR/RID: Viscous substance. Not restricted, ref. chapter 2.2.3.1.5 (applicable to receptacles < 450 litre capacity).

**ADN**

: The product is only regulated as an environmentally hazardous substance when transported in tank vessels.

**IMDG**

: **Emergency schedules** F-E, S-E

IMDG: Viscous substance. Transport in accordance with paragraph 2.3.2.5 (applicable to receptacles < 450 litre capacity).

**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.

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## 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.

#### International regulations

##### 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)



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## SECTION 15: Regulatory information

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<br>Skin Irrit. 2, H315<br>Eye Dam. 1, H318<br>Skin Sens. 1, H317<br>Aquatic Chronic 3, H412 | On basis of test data<br>Calculation method<br>Calculation method<br>Calculation method<br>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.                               |
| H318 | Causes serious eye damage.   |
| 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 \[CLP/GHS\]](#)

|                   |   |
|-------------------|---|
| 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 Dam. 1        | SERIOUS EYE DAMAGE/EYE IRRITATION - 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 |

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## SECTION 16: Other information

STOT SE 3                      SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 3

**Date of printing**                      : 27.03.2023  
**Date of issue/ Date of revision**                      : 27.03.2023  
**Date of previous issue**                      : No previous validation  
**Version**                      : 1

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