

Guard Edge D (C082)

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

1.1 Product identifier

Product name : Guard Edge D (C082)
Product code : 45202
Product type : Powder coating.
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

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 CZECH a.s.
NA ROVNEM 866
400 04 TRMICE
CZECH REPUBLIC

Phone : + 420 477 828 969
Fax.: + 420 477 828 962
sdsjotun@jotun.com

1.4 Emergency telephone number

224 919 293 – Toxikologické informační středisko (TIS)

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]

Aquatic Acute 1, H400
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

Guard Edge D (C082)

SECTION 2: Hazards identification

Hazard pictograms :



Signal word :

Warning.

Hazard statements :

H410 - Very toxic to aquatic life with long lasting effects.

Precautionary statements

General :

Not applicable.

Prevention :

P273 - Avoid release to the environment.

Response :

P391 - Collect spillage.

Storage :

Not applicable.

Disposal :

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

Supplemental label elements :

EUH212 - Warning! Hazardous respirable dust may be formed when used. Do not breathe dust.

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.

SECTION 3: Composition/information on ingredients

3.2 Mixtures :

Mixture

| Product/ingredient name | Identifiers | % | Classification | Specific Conc. Limits, M-factors and ATEs | Type |
|--|--|-----|--|---|---------|
| barium sulfate | REACH #: 01-2119491274-35 EC: 231-784-4 CAS: 7727-43-7 | ≤10 | Not classified. | - | [2] |
| copper | REACH #: 01-2119480154-42 EC: 231-159-6 CAS: 7440-50-8 | ≤5 | Acute Tox. 4, H302 Aquatic Acute 1, H400 Aquatic Chronic 2, H411 | ATE [Oral] = 500 mg/kg M [Acute] = 10 | [1] [2] |
| 1,2,4,5-benzenetetracarboxylic acid, compd. with 4,5-dihydro-2-phenyl-1h-imidazole (1:1) | REACH #: 01-2119453802-40 EC: 259-224-4 CAS: 54553-90-1 | ≤5 | Aquatic Chronic 3, H412 | - | [1] |

Guard Edge D (C082)

SECTION 3: Composition/information on ingredients

| | | | | | |
|--|--|------|--|-----------------|----------------|
| titanium dioxide | EC: 236-675-5 CAS: 13463-67-7 Index: 022-006-00-2 | ≤3 | Carc. 2, H351 (inhalation) | - | [1] [2] [*] |
| Aluminium powder (stabilized) | EC: 231-072-3 CAS: 7429-90-5 Index: 013-002-00-1 | ≤3 | Flam. Sol. 1, H228 Water-react. 2, H261 | - | [2] |
| 2,4,8,10-tetraoxa- 3,9-diphosphaspiro[5.5] undecane, 3,9-bis[2,4-bis (1,1-dimethylethyl)phenoxy]- | REACH #: 01-2119977073-34 EC: 247-952-5 CAS: 26741-53-7 | ≤1 | Aquatic Chronic 1, H410 | M [Chronic] = 1 | [1] |
| 2-ethyl-N,N-bis (2-ethylhexyl)hexylamine | EC: 217-461-0 CAS: 1860-26-0 | ≤0.3 | Repr. 2, H361f STOT RE 2, H373 See Section 16 for the full text of the H statements declared above. | - | [1] |

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

[*] The classification as a carcinogen by inhalation applies only to mixtures placed on the market in powder form containing 1% or more of titanium dioxide particles with aerodynamic diameter ≤ 10 µm not bound within a matrix. 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.

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.

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. Coating powders can cause localised skin irritation in folds of the skin or under tight clothing.

Caprolactam is classified as hazardous to human health and the toxicity effects are described by the following hazard statements: Harmful if swallowed or if inhaled (H302 + H332), Causes skin irritation (H315), Causes serious eye

*Guard Edge D (C082)***SECTION 4: First aid measures**

irritation (H319), May cause respiratory irritation (H335).

Over-exposure signs/symptoms

- Eye contact** : No specific data.
Inhalation : No specific data.
Skin contact : No specific data.
Ingestion : No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
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, CO₂ blanket, water spray or mist.
Unsuitable extinguishing media : Do not use water jet.
Do not use inert gas under high pressure (e.g. CO₂).

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.
Fine dust clouds may form explosive mixtures with air.

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

Not available.

6.1 Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : Exclude sources of ignition and ventilate the area. Avoid breathing dust. 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.

Guard Edge D (C082)

SECTION 6: Accidental release measures

6.3 Methods and material for containment and cleaning up : Contain and collect spillage with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Do not use a dry brush as dust clouds or static can be created.

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).

Advice should be taken from a competent occupational health practitioner on the assessment of employees with skin or respiratory complaints before the individual is exposed to the uncured product.

7.1 Precautions for safe handling

Precautions should be taken to prevent the formation of dusts in concentrations above flammable, explosive or occupational exposure limits.

Electrical equipment and lighting should be protected to appropriate standards to prevent dust coming into contact with hot surfaces, sparks or other ignition sources.

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.

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).

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.

During stoving/curing caprolactam will be released. Efficient oven extraction must be provided to safely discharge caprolactam from the workplace.

Welding, grinding and other hot work on the already-coated substrate may cause free isocyanates to be formed and released.

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations.

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 container tightly closed.

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 |
|----------|---------------------------------|-------------------------|
| E1 | 100 tonne | 200 tonne |

See Technical Data Sheet / packaging for further information.

7.3 Specific end use(s)

Recommendations : Not available.

Industrial sector specific solutions : Not available.

Guard Edge D (C082)

SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. Information is provided based on typical anticipated uses of the product. Additional measures might be required for bulk handling or other uses that could significantly increase worker exposure or environmental releases.

8.1 Control parameters

Occupational exposure limits

Dust Limit : 10 mg/m³ (TWA of total inhalable dust) and 4 mg/m³ (TWA of respirable)

| Product/ingredient name | Exposure limit values |
|-------------------------------|--|
| barium sulfate | Government regulation of Czech Republic PEL/NPK-P (Czech Republic, 5/2021). TWA: 10 mg/m ³ 8 hours. Form: Dust |
| copper | Government regulation of Czech Republic PEL/NPK-P (Czech Republic, 5/2021). TWA: 1 mg/m ³ 8 hours. Form: dust and inhalable fraction of aerosol STEL: 2 mg/m ³ 15 minutes. Form: dust and inhalable fraction of aerosol STEL: 0.2 mg/m ³ 15 minutes. Form: fumes and respirable fractions of aerosol TWA: 0.1 mg/m ³ 8 hours. Form: fumes and respirable fractions of aerosol |
| titanium dioxide | EU OEL (Europe). TWA: 5 mg/m ³ 8 hours. |
| Aluminium powder (stabilized) | Government regulation of Czech Republic PEL/NPK-P (Czech Republic, 5/2021). Notes: TWA: 10 mg/m ³ , () 8 hours. Form: Dust |

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 |
|--|------|-----------------------|-------------------------|--------------------|----------|
| copper | DNEL | Long term Oral | 0.041 mg/kg bw/day | General population | Systemic |
| | DNEL | Short term Inhalation | 1 mg/m ³ | General population | Local |
| | DNEL | Long term Inhalation | 1 mg/m ³ | General population | Local |
| | DNEL | Long term Dermal | 137 mg/kg bw/day | General population | Systemic |
| | DNEL | Long term Dermal | 137 mg/kg bw/day | Workers | Systemic |
| | DNEL | Short term Dermal | 273 mg/kg bw/day | General population | Systemic |
| | DNEL | Short term Dermal | 273 mg/kg bw/day | Workers | Systemic |
| 1,2,4,5-benzenetetracarboxylic acid, compd. with 4,5-dihydro-2-phenyl-1h-imidazole (1:1) | DNEL | Long term Oral | 0.272 mg/kg bw/day | General population | Systemic |
| | DNEL | Long term Dermal | 0.272 mg/kg bw/day | General population | Systemic |
| | DNEL | Long term Inhalation | 0.473 mg/m ³ | General population | Systemic |

Guard Edge D (C082)

SECTION 8: Exposure controls/personal protection

| | | | | | |
|--|------|----------------------|------------------------|--------------------|----------|
| 2,4,8,10-tetraoxa-3,9-diphosphaspiro[5.5]undecane, 3,9-bis[2,4-bis(1,1-dimethylethyl)phenoxy]- | DNEL | Long term Dermal | 0.544 mg/kg bw/day | Workers | Systemic |
| | DNEL | Long term Inhalation | 1.92 mg/m ³ | Workers | Systemic |
| | DNEL | Long term Inhalation | 0.68 mg/m ³ | General population | Systemic |
| | DNEL | Long term Inhalation | 2.75 mg/m ³ | Workers | Systemic |
| | DNEL | Long term Oral | 0.39 mg/kg bw/day | General population | Systemic |
| | DNEL | Long term Dermal | 0.39 mg/kg bw/day | General population | Systemic |
| 2-ethyl-N,N-bis(2-ethylhexyl)hexylamine | DNEL | Long term Dermal | 0.78 mg/kg bw/day | Workers | Systemic |
| | DNEL | Long term Oral | 0.03 mg/kg bw/day | General population | Systemic |
| | DNEL | Long term Inhalation | 0.06 mg/m ³ | General population | Systemic |
| | DNEL | Long term Dermal | 0.07 mg/kg bw/day | General population | Systemic |
| | DNEL | Long term Dermal | 0.13 mg/kg bw/day | Workers | Systemic |
| | DNEL | Long term Inhalation | 0.23 mg/m ³ | Workers | Systemic |

PNECs

No PNECs available

8.2 Exposure controls

Appropriate engineering controls : Avoid breathing dust. 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 exposure to dusts 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. 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: safety glasses with side-shields.

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

Guard Edge D (C082)**SECTION 8: Exposure controls/personal protection**

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

Recommended, gloves(breakthrough time) > 8 hours: nitrile rubber, neoprene, PVC

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 protective clothing. Care should be taken in the selection of protective clothing to ensure that inflammation and irritation of the skin at the neck and wrists through contact with the powder are avoided.
- 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. If dust is generated and ventilation is inadequate, use respirator that will protect against dust/mist. (FFP2 / N95).
- 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** : Solid. Powder.
- Colour** : Various
- Odour** : Odourless.
- Odour threshold** : Not applicable.
- Melting point (dust)** : 85 - 115 °C
- Initial boiling point and boiling range** : Not applicable.
- Lower explosion limit (dust)** : 30 g/m³ (EN 14034-3)
- Minimum ignition energy (mJ)** : 10 - 30 (EN 13821)
- Flash point** : Not applicable.
- Auto-ignition temperature** : > 400°C
- Decomposition temperature** : >230°C
- pH** : Not applicable.
- Viscosity** : Not applicable.
- Solubility in water** : cold water Not soluble
hot water Not soluble
- Partition coefficient: n-octanol/ water** : Not applicable.
- Vapour pressure** : Not applicable.
- Evaporation rate** : Not applicable.
- Density** : 1.2 to 1.9 g/cm³
- Vapour density** : Not applicable.
- Explosive properties** : Not available.
- Oxidising properties** : Not available.
- Particle characteristics**
- Median particle size** : Not available.

9.2 Other information**Date of issue/Date of revision**: 23.02.2023 **Date of previous issue**

: No previous validation

Version : 1

8/15

Guard Edge D (C082)

SECTION 9: Physical and chemical properties

No additional information.

SECTION 10: Stability and reactivity

- 10.1 Reactivity** : Fine dust clouds may form explosive mixtures with air.
- 10.2 Chemical stability** : Stable under recommended storage and handling conditions (see Section 7).
- 10.3 Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.
- 10.4 Conditions to avoid** : Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame).
Take precautionary measures against electrostatic discharges.
To avoid fire or explosion, dissipate static electricity during transfer by earthing and bonding containers and equipment before transferring material.
Prevent dust accumulation.
- 10.5 Incompatible materials** : Not applicable.
- 10.6 Hazardous decomposition products** : 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.

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. Coating powders can cause localised skin irritation in folds of the skin or under tight clothing.

Caprolactam is classified as hazardous to human health and the toxicity effects are described by the following hazard statements: Harmful if swallowed or if inhaled (H302 + H332), Causes skin irritation (H315), Causes serious eye irritation (H319), May cause respiratory irritation (H335).

Acute toxicity

| Product/ingredient name | Result | Species | Dose | Exposure |
|--|-----------|---------|------------|----------|
| 1,2,4,5-benzenetetracarboxylic acid, compd. with 4,5-dihydro-2-phenyl-1h-imidazole (1:1) | LD50 Oral | Rat | 7400 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) |
|--|--------------|----------------|--------------------------|-----------------------------|-------------------------------------|
| Guard Edge D (C082) | 10114.3 | N/A | N/A | N/A | N/A |
| copper | 500 | N/A | N/A | N/A | N/A |
| 1,2,4,5-benzenetetracarboxylic acid, compd. with 4,5-dihydro-2-phenyl-1h-imidazole (1:1) | 7400 | N/A | N/A | N/A | N/A |

Irritation/Corrosion

Guard Edge D (C082)

SECTION 11: Toxicological information

| Product/ingredient name | Result | Species | Score | Exposure | Observation |
|--|------------------------|---------|-------|-----------|-------------|
| titanium dioxide | Skin - Mild irritant | Human | - | 72 hours | - |
| 2,4,8,10-tetraoxa-3,9-diphosphaspiro[5.5]undecane, 3,9-bis[2,4-bis(1,1-dimethylethyl)phenoxy]- | Skin - Severe irritant | Rabbit | - | 0.5 Grams | - |

Sensitisation

Based on available data, the classification criteria are not met.

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)

Based on available data, the classification criteria are not met.

Specific target organ toxicity (repeated exposure)

| Product/ingredient name | Category | Route of exposure | Target organs |
|---|------------|-------------------|---------------|
| 2-ethyl-N,N-bis(2-ethylhexyl)hexylamine | Category 2 | - | - |

Aspiration hazard

Based on available data, the classification criteria are not met.

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.

Coating powder residues should not be allowed to enter drains or watercourses or be deposited where they could affect ground or surface waters.

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 |
|-------------------------|------------------------------------|--|----------|
| copper | Acute EC50 1100 µg/l Fresh water | Aquatic plants - Lemna minor | 4 days |
| | Acute EC50 2.1 µg/l Fresh water | Daphnia - Daphnia longispina - Juvenile (Fledgling, Hatchling, Weanling) | 48 hours |
| | Acute IC50 13 µg/l Fresh water | Algae - Pseudokirchneriella subcapitata - Exponential growth phase | 72 hours |
| | Acute IC50 5.4 mg/l Marine water | Aquatic plants - Plantae - Exponential growth phase | 72 hours |
| | Acute LC50 0.072 µg/l Marine water | Crustaceans - Amphipoda - | 48 hours |

Guard Edge D (C082)

SECTION 12: Ecological information

| | | | | |
|--|---------------------------------------|--|--|----------|
| 1,2,4,5-benzenetetracarboxylic acid, compd. with 4,5-dihydro-2-phenyl-1h-imidazole (1:1) | Acute LC50 7.56 µg/l Marine water | Adult Fish - Periophthalmus waltoni - Adult | 96 hours | |
| | Chronic NOEC 2.5 µg/l Marine water | Algae - Nitzschia closterium - Exponential growth phase | 72 hours | |
| | Chronic NOEC 7 mg/l Fresh water | Aquatic plants - Ceratophyllum demersum | 3 days | |
| | Chronic NOEC 0.02 mg/l Fresh water | Crustaceans - Cambarus bartonii - Mature | 21 days | |
| | Chronic NOEC 2 µg/l Fresh water | Daphnia - Daphnia magna | 21 days | |
| | Chronic NOEC 0.8 µg/l Fresh water | Fish - Oreochromis niloticus - Juvenile (Fledgling, Hatchling, Weanling) | 6 weeks | |
| | Acute EC50 9 mg/l | Algae - Scenedesmus subspicatus | 72 hours | |
| | titanium dioxide | Acute EC50 125 mg/l | Crustaceans | 48 hours |
| | | Chronic NOEC 0.64 mg/l | Algae | - |
| | | Acute LC50 3 mg/l Fresh water | Crustaceans - Ceriodaphnia dubia - Neonate | 48 hours |
| Acute LC50 6.5 mg/l Fresh water | | Daphnia - Daphnia pulex - Neonate | 48 hours | |
| 2,4,8,10-tetraoxa-3,9-diphosphaspiro[5.5]undecane, 3,9-bis[2,4-bis(1,1-dimethylethyl)phenoxy]- | Acute LC50 >1000000 µg/l Marine water | Fish - Fundulus heteroclitus | 96 hours | |
| | Acute EC10 15.4 mg/l | Algae | 72 hours | |
| | Acute EC50 97 mg/l | Algae | 72 hours | |
| | Acute LC50 70.7 mg/l | Fish | 96 hours | |
| | Chronic NOEC 0.1 mg/l | Daphnia | 21 days | |

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

12.2 Persistence and degradability

Conclusion/Summary : Not available.

12.3 Bioaccumulative potential

| Product/ingredient name | LogP _{ow} | BCF | Potential |
|--|--------------------|-----|-----------|
| 1,2,4,5-benzenetetracarboxylic acid, compd. with 4,5-dihydro-2-phenyl-1h-imidazole (1:1) | 1 | - | low |
| 2-ethyl-N,N-bis(2-ethylhexyl)hexylamine | 10.131 | - | high |

12.4 Mobility in soil

Soil/water partition coefficient (K_{oc}) : 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

Guard Edge D (C082)

SECTION 12: Ecological information

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.

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.

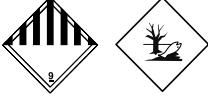
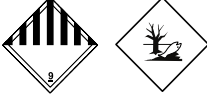
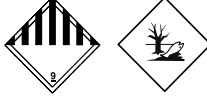

| Type of packaging | European waste catalogue (EWC) |
|-------------------|--|
| CEPE Guidelines | 15 01 10* packaging containing residues of or contaminated by hazardous substances |

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. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

Guard Edge D (C082)

SECTION 14: Transport information

| | ADR/RID | ADN | IMDG | IATA |
|--|--|--|---|--|
| 14.1 UN number or ID number | UN3077 | UN3077 | UN3077 | UN3077 |
| 14.2 UN proper shipping name | Environmentally hazardous substance, solid, n.o.s. (copper) | Environmentally hazardous substance, solid, n.o.s. (copper) | Environmentally hazardous substance, solid, n.o.s. (copper). Marine pollutant (copper) | Environmentally hazardous substance, solid, n.o.s. (copper) |
| 14.3 Transport hazard class(es) | 9  | 9  | 9  | 9  |
| 14.4 Packing group | III | III | III | III |
| 14.5 Environmental hazards | Yes. | Yes. | Yes. | Yes. |

Additional information

ADR/RID : This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.

Hazard identification number 90

Tunnel code (-)

ADN : This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.

IMDG : This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.

Emergency schedules F-A, S-F

IATA : This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 5.0.2.4.1, 5.0.2.6.1.1 and 5.0.2.8.

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.

Guard Edge D (C082)

SECTION 15: Regulatory information

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

Other EU regulations

Industrial emissions (integrated pollution prevention and control) - Air : Listed

Industrial emissions (integrated pollution prevention and control) - Water : 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)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

15.2 Chemical safety assessment : Not applicable.

Guard Edge D (C082)

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 |
|--|--|
| Aquatic Acute 1, H400 Aquatic Chronic 3, H412 | Calculation method Calculation method |

Full text of abbreviated H statements

| | |
|-------|--|
| H228 | Flammable solid. |
| H261 | In contact with water releases flammable gases. |
| H302 | Harmful if swallowed. |
| H351 | Suspected of causing cancer. |
| H361f | Suspected of damaging fertility. |
| H373 | May cause damage to organs through prolonged or repeated exposure. |
| H400 | Very toxic to aquatic life. |
| H410 | Very toxic to aquatic life with long lasting effects. |
| 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 Acute 1 | SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1 |
| Aquatic Chronic 1 | LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1 |
| Aquatic Chronic 2 | LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2 |
| Aquatic Chronic 3 | LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3 |
| Carc. 2 | CARCINOGENICITY - Category 2 |
| Flam. Sol. 1 | FLAMMABLE SOLIDS - Category 1 |
| Repr. 2 | REPRODUCTIVE TOXICITY - Category 2 |
| STOT RE 2 | SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2 |
| Water-react. 2 | SUBSTANCES AND MIXTURES WHICH IN CONTACT WITH WATER EMIT FLAMMABLE GASES - Category 2 |

Date of printing : 23.02.2023
Date of issue/ Date of revision : 23.02.2023
Date of previous issue : No previous validation
Version : 1

Notice to reader

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