

MAR-71

Wilhelmsen Ships Service AS

Part Number: 735977 (3 x 5 liter)

Version No: 10.24

Safety Data Sheet (Conforms to Annex II of REACH (1907/2006) - Regulation 2020/878)

Issue Date: 11/11/2022

Print Date: 08/11/2023

L.REACH.NOR.EN

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

1.1. Product Identifier

| | |
|-------------------------------|--|
| Product name | MAR-71 |
| Chemical Name | Not Applicable |
| Synonyms | 3-3'-Methylene-bis(5-methyl-oxazolidine) Cas.No: 66204-44-2 |
| Proper shipping name | CORROSIVE LIQUID, TOXIC, N.O.S. (Reaction products of paraformaldehyde and 2-hydroxypropylamine (ratio 3:2)) |
| Chemical formula | Not Applicable |
| Other means of identification | 735977 (3 x 5 liter), 735977 |

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

| | | |
|---------------------------|--|---|
| Procedural Category | PROC1 | Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions. |
| Chemical Product Category | PC35 | Washing and cleaning products |
| | PC8 | Biocidal products |
| Sectors of Use | SU3 | Industrial uses: Uses of substances as such or in preparations* at industrial sites |
| Relevant identified uses | Marine biocide. Pr No: 15806 (Norway) | |
| Uses advised against | No specific uses advised against are identified. | |

1.3. Details of the manufacturer or supplier of the safety data sheet

| | | | |
|-------------------------|---|--|---|
| Registered company name | Wilhelmsen Ships Service AS | Outback (M)SDS portal: http://jr.chemwatch.net/outb/account/autologin?login=wilhelmsen | Wilhelmsen Ships Service AS* Central Warehouse |
| Address | Strandveien 20 Lysaker 1366 Norway | -----Use our Outback portal to obtain our (M)SDSs in other languages and/or format.----- For questions relating to our SDSs please use Email: WSS.GLOBAL.SDSINFO@wilhelmsen.com ----- Norway | Willem Barentszstraat 50 Rotterdam Netherlands |
| Telephone | +47 67 58 40 00 | Not Available | +31 10 4877 777 |
| Fax | Not Available | Not Available | Not Available |
| Website | http://www.wilhelmsen.com/ | http://www.wilhelmsen.com | http://www.wilhelmsen.com |
| Email | wss.norway.cs@wilhelmsen.com | wss.global.sdsinfo@wilhelmsen.com | wss.rotterdam@wilhelmsen.com |

| | |
|-------------------------|--|
| Registered company name | Wilhelmsen Ships Service AS* Central Warehouse |
| Address | Willem Barentszstraat 50 Rotterdam Netherlands |

| | |
|-----------|---|
| Telephone | +31 10 4877 777 |
| Fax | Not Available |
| Website | http://www.wilhelmsen.com |
| Email | wss.rotterdam@wilhelmsen.com |

1.4. Emergency telephone number

| Association / Organisation | Giftinformasjonssentralen - 24 timer | 24hrs - Chemwatch | Dutch nat. poison centre |
|-----------------------------------|--------------------------------------|-------------------|--------------------------|
| Emergency telephone numbers | +47 22591300 | +31-10-4877700 | + 31 88 7558561 |
| Other emergency telephone numbers | +31-10-4877700 | +31-10-4877700 | + 31 10 4877700 |

| Association / Organisation | Dutch nat. poison centre | CHEMWATCH EMERGENCY RESPONSE (24/7) |
|-----------------------------------|--------------------------|-------------------------------------|
| Emergency telephone numbers | + 31 30 274 88 88 | +47 23 25 25 84 |
| Other emergency telephone numbers | + 31-10-4877700 | +61 3 9573 3188 |

Once connected and if the message is not in your preferred language then please dial 01

SECTION 2 Hazards identification

2.1. Classification of the substance or mixture

Considered a hazardous mixture according to Reg. (EC) No 1272/2008 and their amendments. Classified as Dangerous Goods for transport purposes.

| | |
|--|---|
| Classification according to regulation (EC) No 1272/2008 [CLP] and amendments [1] | H350 - Carcinogenicity Category 1B, H311 - Acute Toxicity (Dermal) Category 3, H314 - Skin Corrosion/Irritation Category 1B, H411 - Hazardous to the Aquatic Environment Long-Term Hazard Category 2, H373 - Specific Target Organ Toxicity - Repeated Exposure Category 2, H332 - Acute Toxicity (Inhalation) Category 4, H302 - Acute Toxicity (Oral) Category 4, H317 - Sensitisation (Skin) Category 1A, H341 - Germ Cell Mutagenicity Category 2 |
| Legend: | 1. Classified by Chemwatch; 2. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI |

2.2. Label elements

| | |
|---------------------|---|
| Hazard pictogram(s) |  |
| Signal word | Danger |

Hazard statement(s)

| | |
|------|---|
| H350 | May cause cancer. |
| H311 | Toxic in contact with skin. |
| H314 | Causes severe skin burns and eye damage. |
| H411 | Toxic to aquatic life with long lasting effects. |
| H373 | May cause damage to organs through prolonged or repeated exposure. (Dermal) |
| H332 | Harmful if inhaled. |
| H302 | Harmful if swallowed. |
| H317 | May cause an allergic skin reaction. |
| H341 | Suspected of causing genetic defects. |

Supplementary statement(s)

Not Applicable

CLP classification (additional)

Not Applicable

Precautionary statement(s) Prevention

| | |
|------|---|
| P201 | Obtain special instructions before use. |
| P260 | Do not breathe mist/vapours/spray. |
| P264 | Wash all exposed external body areas thoroughly after handling. |

Precautionary statement(s) Response

| | |
|----------------|--|
| P301+P330+P331 | IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. If more than 15 mins from Doctor, INDUCE VOMITING (if conscious). |
| P303+P361+P353 | IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. |
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |

Precautionary statement(s) Storage

| | |
|------|------------------|
| P405 | Store locked up. |
|------|------------------|

Precautionary statement(s) Disposal

| | |
|------|--|
| P501 | Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation. |
|------|--|

2.3. Other hazards

REACH - Art.57-59: The mixture does not contain Substances of Very High Concern (SVHC) at the SDS print date.

SECTION 3 Composition / information on ingredients

3.1. Substances

See 'Composition on ingredients' in Section 3.2

3.2. Mixtures

| 1. CAS No 2. EC No 3. Index No 4. REACH No | %[weight] | Name | Classification according to regulation (EC) No 1272/2008 [CLP] and amendments | SCL / M-Factor | Nanoform Particle Characteristics |
|--|-----------|---|---|----------------|-----------------------------------|
| 1. Not Available 2. Not Available 3. Not Available 4. Not Available | 100 | Reaction products of <u>paraformaldehyde and 2-hydroxypropylamine (ratio 3:2)</u> | Acute Toxicity (Oral) Category 4, Acute Toxicity (Dermal) Category 3, Skin Corrosion/Irritation Category 1B, Serious Eye Damage/Eye Irritation Category 1, Sensitisation (Skin) Category 1A, Germ Cell Mutagenicity Category 2, Carcinogenicity Category 1B, Specific Target Organ Toxicity - Repeated Exposure Category 2, Hazardous to the Aquatic Environment Long-Term Hazard Category 2; H302, H311, H314, H318, H317, H341, H350, H373, H411, EUH071 ^[1] | Not Available | Not Available |

Legend: 1. Classified by Chemwatch; 2. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI; 3. Classification drawn from C&L; * EU IOELVs available; [e] Substance identified as having endocrine disrupting properties

SECTION 4 First aid measures

4.1. Description of first aid measures

| | |
|---------------------|--|
| Eye Contact | <p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none"> ▶ Immediately hold eyelids apart and flush the eye continuously with running water. ▶ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. ▶ Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes. ▶ Transport to hospital or doctor without delay. ▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel. |
| Skin Contact | <p>If skin or hair contact occurs:</p> <ul style="list-style-type: none"> ▶ Immediately flush body and clothes with large amounts of water, using safety shower if available. ▶ Quickly remove all contaminated clothing, including footwear. ▶ Wash skin and hair with running water. Continue flushing with water until advised to stop by the Poisons Information Centre. ▶ Transport to hospital, or doctor. |

| | |
|-------------------|--|
| Inhalation | <ul style="list-style-type: none"> ▸ If fumes or combustion products are inhaled remove from contaminated area. ▸ Lay patient down. Keep warm and rested. ▸ Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures. ▸ Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary. ▸ Transport to hospital, or doctor. ▸ Inhalation of vapours or aerosols (mists, fumes) may cause lung oedema. ▸ Corrosive substances may cause lung damage (e.g. lung oedema, fluid in the lungs). ▸ As this reaction may be delayed up to 24 hours after exposure, affected individuals need complete rest (preferably in semi-recumbent posture) and must be kept under medical observation even if no symptoms are (yet) manifested. ▸ Before any such manifestation, the administration of a spray containing a dexamethasone derivative or beclomethasone derivative may be considered. <p>This must definitely be left to a doctor or person authorised by him/her. (ICSC13719)</p> |
| Ingestion | <ul style="list-style-type: none"> ▸ For advice, contact a Poisons Information Centre or a doctor at once. ▸ Urgent hospital treatment is likely to be needed. ▸ If swallowed do NOT induce vomiting. ▸ If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration. ▸ Observe the patient carefully. ▸ Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious. ▸ Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink. ▸ Transport to hospital or doctor without delay. |

4.2 Most important symptoms and effects, both acute and delayed

See Section 11

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

for corrosives:

BASIC TREATMENT

- Establish a patent airway with suction where necessary.
- Watch for signs of respiratory insufficiency and assist ventilation as necessary.
- Administer oxygen by non-rebreather mask at 10 to 15 l/min.
- Monitor and treat, where necessary, for pulmonary oedema .
- Monitor and treat, where necessary, for shock.
- Anticipate seizures.
- Where eyes have been exposed, flush immediately with water and continue to irrigate with normal saline during transport to hospital.
- **DO NOT use emetics.** Where ingestion is suspected rinse mouth and give up to 200 ml water (5 ml/kg recommended) for dilution where patient is able to swallow, has a strong gag reflex and does not drool.
- Skin burns should be covered with dry, sterile bandages, following decontamination.
- **DO NOT attempt neutralisation as exothermic reaction may occur.**

ADVANCED TREATMENT

- Consider orotracheal or nasotracheal intubation for airway control in unconscious patient or where respiratory arrest has occurred.
- Positive-pressure ventilation using a bag-valve mask might be of use.
- Monitor and treat, where necessary, for arrhythmias.
- Start an IV D5W TKO. If signs of hypovolaemia are present use lactated Ringers solution. Fluid overload might create complications.
- Drug therapy should be considered for pulmonary oedema.
- Hypotension with signs of hypovolaemia requires the cautious administration of fluids. Fluid overload might create complications.
- Treat seizures with diazepam.
- Proparacaine hydrochloride should be used to assist eye irrigation.

EMERGENCY DEPARTMENT

- Laboratory analysis of complete blood count, serum electrolytes, BUN, creatinine, glucose, urinalysis, baseline for serum aminotransferases (ALT and AST), calcium, phosphorus and magnesium, may assist in establishing a treatment regime.
- Positive end-expiratory pressure (PEEP)-assisted ventilation may be required for acute parenchymal injury or adult respiratory distress syndrome.
- Consider endoscopy to evaluate oral injury.
- Consult a toxicologist as necessary.

BRONSTEIN, A.C. and CURRANCE, P.L. *EMERGENCY CARE FOR HAZARDOUS MATERIALS EXPOSURE: 2nd Ed. 1994*

SECTION 5 Firefighting measures

5.1. Extinguishing media

- ▶ Water spray or fog.
- ▶ Foam.
- ▶ Dry chemical powder.

5.2. Special hazards arising from the substrate or mixture

| | |
|-----------------------------|-------------|
| Fire Incompatibility | None known. |
|-----------------------------|-------------|

5.3. Advice for firefighters

| | |
|------------------------------|--|
| Fire Fighting | <ul style="list-style-type: none"> ▶ Alert Fire Brigade and tell them location and nature of hazard. ▶ Wear full body protective clothing with breathing apparatus. ▶ Prevent, by any means available, spillage from entering drains or water course. |
| Fire/Explosion Hazard | <ul style="list-style-type: none"> ▶ Non combustible. ▶ Not considered a significant fire risk, however containers may burn. <p>May emit corrosive fumes.</p> |

SECTION 6 Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

See section 8

6.2. Environmental precautions

See section 12

6.3. Methods and material for containment and cleaning up

| | |
|---------------------|---|
| Minor Spills | <ul style="list-style-type: none"> ▶ Drains for storage or use areas should have retention basins for pH adjustments and dilution of spills before discharge or disposal of material. ▶ Check regularly for spills and leaks. ▶ Clean up all spills immediately. ▶ Avoid breathing vapours and contact with skin and eyes. ▶ Control personal contact with the substance, by using protective equipment. |
| Major Spills | <ul style="list-style-type: none"> ▶ Clear area of personnel and move upwind. ▶ Alert Fire Brigade and tell them location and nature of hazard. ▶ May be violently or explosively reactive. |

6.4. Reference to other sections

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 Handling and storage

7.1. Precautions for safe handling

| | |
|--------------------------------------|---|
| Safe handling | <ul style="list-style-type: none"> ▶ Avoid all personal contact, including inhalation. ▶ Wear protective clothing when risk of exposure occurs. ▶ Use in a well-ventilated area. |
| Fire and explosion protection | See section 5 |
| Other information | <ul style="list-style-type: none"> ▶ Store in original containers. ▶ Keep containers securely sealed. ▶ Store in a cool, dry, well-ventilated area. |

7.2. Conditions for safe storage, including any incompatibilities

| | |
|--------------------------------|---|
| Suitable container | <ul style="list-style-type: none"> ▶ Lined metal can, lined metal pail/ can. ▶ Plastic pail. ▶ Polyliner drum. <p>For low viscosity materials</p> <ul style="list-style-type: none"> ▶ Drums and jerricans must be of the non-removable head type. ▶ Where a can is to be used as an inner package, the can must have a screwed enclosure. <p>For materials with a viscosity of at least 2680 cSt.</p> |
| Storage incompatibility | <ul style="list-style-type: none"> ▶ Dangerous goods of other classes. |

| | |
|--|--|
| Hazard categories in accordance with Regulation (EC) No 1272/2008 | E2: Hazardous to the Aquatic Environment in Category Chronic 2 |
| Qualifying quantity (tonnes) of dangerous substances as referred to in Article 3(10) for the application of | E2 Lower- / Upper-tier requirements: 200 / 500 |



- X — Must not be stored together
- O — May be stored together with specific preventions
- + — May be stored together

Note: Depending on other risk factors, compatibility assessment based on the table above may not be relevant to storage situations, particularly where large volumes of dangerous goods are stored and handled. Reference should be made to the Safety Data Sheets for each substance or article and risks assessed accordingly.

7.3. Specific end use(s)

See section 1.2

SECTION 8 Exposure controls / personal protection

8.1. Control parameters

| Ingredient | DNELs Exposure Pattern Worker | PNECs Compartment |
|---------------|----------------------------------|----------------------|
| Not Available | Not Available | Not Available |

* Values for General Population

Occupational Exposure Limits (OEL)

INGREDIENT DATA

| Source | Ingredient | Material name | TWA | STEL | Peak | Notes |
|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Not Available | Not Available | Not Available | Not Available | Not Available | Not Available | Not Available |

Not Applicable

Emergency Limits

| Ingredient | TEEL-1 | TEEL-2 | TEEL-3 |
|------------|---------------|---------------|---------------|
| MAR-71 | Not Available | Not Available | Not Available |

| Ingredient | Original IDLH | Revised IDLH |
|--|---------------|---------------|
| Reaction products of paraformaldehyde and 2-hydroxypropylamine (ratio 3:2) | Not Available | Not Available |

Occupational Exposure Banding

| Ingredient | Occupational Exposure Band Rating | Occupational Exposure Band Limit |
|--|-----------------------------------|----------------------------------|
| Reaction products of paraformaldehyde and 2-hydroxypropylamine (ratio 3:2) | E | ≤ 0.1 ppm |

Notes:


Occupational exposure banding is a process of assigning chemicals into specific categories or bands based on a chemical's potency and the adverse health outcomes associated with exposure. The output of this process is an occupational exposure band (OEB), which corresponds to a range of exposure concentrations that are expected to protect worker health.

MATERIAL DATA

Sensory irritants are chemicals that produce temporary and undesirable side-effects on the eyes, nose or throat. Historically occupational exposure standards for these irritants have been based on observation of workers' responses to various airborne concentrations. Present day expectations require that nearly every

individual should be protected against even minor sensory irritation and exposure standards are established using uncertainty factors or safety factors of 5 to 10 or more.

8.2. Exposure controls

| | |
|---|--|
| 8.2.1. Appropriate engineering controls | Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection. The basic types of engineering controls are: Process controls which involve changing the way a job activity or process is done to reduce the risk. |
| 8.2.2. Individual protection measures, such as personal protective equipment |  |
| Eye and face protection | <ul style="list-style-type: none"> ▶ Safety glasses with unperforated side shields may be used where continuous eye protection is desirable, as in laboratories; spectacles are not sufficient where complete eye protection is needed such as when handling bulk-quantities, where there is a danger of splashing, or if the material may be under pressure. ▶ Chemical goggles. Whenever there is a danger of the material coming in contact with the eyes; goggles must be properly fitted. |
| Skin protection | See Hand protection below |
| Hands/feet protection | <ul style="list-style-type: none"> ▶ Elbow length PVC gloves ▶ When handling corrosive liquids, wear trousers or overalls outside of boots, to avoid spills entering boots. <p>NOTE:</p> <ul style="list-style-type: none"> ▶ The material may produce skin sensitisation in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact. ▶ Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed. |
| Body protection | See Other protection below |
| Other protection | <ul style="list-style-type: none"> ▶ Employees working with confirmed human carcinogens should be provided with, and be required to wear, clean, full body protective clothing (smocks, coveralls, or long-sleeved shirt and pants), shoe covers and gloves prior to entering the regulated area. [AS/NZS ISO 6529:2006 or national equivalent] ▶ Employees engaged in handling operations involving carcinogens should be provided with, and required to wear and use half-face filter-type respirators with filters for dusts, mists and fumes, or air purifying canisters or cartridges. A respirator affording higher levels of protection may be substituted. ▶ Prior to each exit from an area containing confirmed human carcinogens, employees should be required to remove and leave protective clothing and equipment at the point of exit and at the last exit of the day, to place used clothing and equipment in impervious containers at the point of exit for purposes of decontamination or disposal. The contents of such impervious containers must be identified with suitable labels. For maintenance and decontamination activities, authorized employees entering the area should be provided with and required to wear clean, impervious garments, including gloves, boots and continuous-air supplied hood. ▶ Overalls. ▶ PVC Apron. ▶ PVC protective suit may be required if exposure severe. |

8.2.3. Environmental exposure controls

See section 12

SECTION 9 Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | | | |
|---|----------------|--|----------------|
| Appearance | Clear liquid | | |
| Physical state | Liquid | Relative density (Water = 1) | 1.05-1.07 |
| Odour | Not Available | Partition coefficient n-octanol / water | -0.3 |
| Odour threshold | Not Applicable | Auto-ignition temperature (°C) | Not Applicable |
| pH (as supplied) | 10 | Decomposition temperature (°C) | Not Applicable |
| Melting point / freezing point (°C) | Not Applicable | Viscosity (cSt) | Not Applicable |
| Initial boiling point and boiling range (°C) | Not Applicable | Molecular weight (g/mol) | Not Applicable |
| Flash point (°C) | Not Applicable | Taste | Not Applicable |

Continued...

| | | | |
|----------------------------------|------------------------|--|----------------|
| Evaporation rate | Not Available BuAC = 1 | Explosive properties | Not Applicable |
| Flammability | Not Applicable | Oxidising properties | Not Applicable |
| Upper Explosive Limit (%) | Not Applicable | Surface Tension (dyn/cm or mN/m) | Not Available |
| Lower Explosive Limit (%) | Not Applicable | Volatile Component (%vol) | Not Applicable |
| Vapour pressure (kPa) | Not Applicable | Gas group | Not Applicable |
| Solubility in water | Miscible | pH as a solution (1%) | Not Applicable |
| Vapour density (Air = 1) | Not Applicable | VOC g/L | Not Applicable |
| Nanoform Solubility | Not Available | Nanoform Particle Characteristics | Not Available |
| Particle Size | Not Available | | |

9.2. Other information

Not Available

SECTION 10 Stability and reactivity

| | |
|---|--|
| 10.1.Reactivity | See section 7.2 |
| 10.2. Chemical stability | <ul style="list-style-type: none"> ▸ Unstable in the presence of incompatible materials. ▸ Product is considered stable. ▸ Hazardous polymerisation will not occur. |
| 10.3. Possibility of hazardous reactions | See section 7.2 |
| 10.4. Conditions to avoid | See section 7.2 |
| 10.5. Incompatible materials | See section 7.2 |
| 10.6. Hazardous decomposition products | See section 5.3 |

SECTION 11 Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

| | |
|---------------------|--|
| Inhaled | <p>The material may produce respiratory tract irritation. Symptoms of pulmonary irritation may include coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and a burning sensation.</p> <p>Unlike most organs, the lung can respond to a chemical insult or a chemical agent, by first removing or neutralising the irritant and then repairing the damage (inflammation of the lungs may be a consequence).</p> |
| Ingestion | <p>The material can produce severe chemical burns within the oral cavity and gastrointestinal tract following ingestion.</p> <p>The material is not thought to produce adverse health effects following ingestion (as classified by EC Directives using animal models). Nevertheless, adverse systemic effects have been produced following exposure of animals by at least one other route and good hygiene practice requires that exposure be kept to a minimum.</p> |
| Skin Contact | <p>Skin contact with the material may produce toxic effects; systemic effects may result following absorption.</p> <p>The material can produce severe chemical burns following direct contact with the skin.</p> <p>Open cuts, abraded or irritated skin should not be exposed to this material</p> <p>Entry into the blood-stream through, for example, cuts, abrasions, puncture wounds or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.</p> |
| Eye | <p>The material can produce severe chemical burns to the eye following direct contact. Vapours or mists may be extremely irritating.</p> <p>When applied to the eye(s) of animals, the material produces severe ocular lesions which are present twenty-four hours or more after instillation.</p> |
| Chronic | <p>Repeated or prolonged exposure to corrosives may result in the erosion of teeth, inflammatory and ulcerative changes in the mouth and necrosis (rarely) of the jaw. Bronchial irritation, with cough, and frequent attacks of bronchial pneumonia may ensue. Gastrointestinal disturbances may also occur.</p> <p>Repeated or long-term occupational exposure is likely to produce cumulative health effects involving organs or biochemical systems.</p> <p>Strong evidence exists that the substance may cause irreversible but non-lethal mutagenic effects following a single exposure. Practical experience shows that skin contact with the material is capable either of inducing a sensitisation reaction in a substantial number of individuals, and/or of producing a positive response in experimental animals.</p> <p>Substances that can cause occupational asthma (also known as asthmagens and respiratory sensitisers) can induce a state of specific airway hyper-responsiveness via an immunological, irritant or other mechanism. Once the airways have become hyper-responsive, further exposure to the substance, sometimes even to tiny quantities, may cause respiratory symptoms.</p> <p>On the basis, primarily, of animal experiments, the material may be regarded as carcinogenic to humans. There is sufficient evidence to provide a strong presumption that human exposure to the material may result in cancer on the basis of:</p> |

Continued...

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| | | |
|--|---|-------------------|
| | - appropriate long-term animal studies - other relevant information | |
| MAR-71 | TOXICITY | IRRITATION |
| | Not Available | Not Available |
| Reaction products of paraformaldehyde and 2-hydroxypropylamine (ratio 3:2) | TOXICITY | IRRITATION |
| | Not Available | Not Available |
| Legend: | 1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances | |

| | |
|--------|--|
| MAR-71 | Exposure to the material may result in a possible risk of irreversible effects. The material may produce mutagenic effects in man. This concern is raised, generally, on the basis of appropriate studies using mammalian somatic cells in vivo. The following information refers to contact allergens as a group and may not be specific to this product. Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type. |
|--------|--|

| | | | |
|-----------------------------------|---|--------------------------|---|
| Acute Toxicity | ✓ | Carcinogenicity | ✓ |
| Skin Irritation/Corrosion | ✓ | Reproductivity | ✗ |
| Serious Eye Damage/Irritation | ✗ | STOT - Single Exposure | ✗ |
| Respiratory or Skin sensitisation | ✓ | STOT - Repeated Exposure | ✓ |
| Mutagenicity | ✓ | Aspiration Hazard | ✗ |

Legend: ✗ – Data either not available or does not fill the criteria for classification
✓ – Data available to make classification

11.2 Information on other hazards

11.2.1. Endocrine disrupting properties

No evidence of endocrine disrupting properties were found in the current literature.

11.2.2. Other information

See Section 11.1

SECTION 12 Ecological information

12.1. Toxicity

| | | | | | |
|--|--|---------------------------|----------------|---------------|---------------|
| MAR-71 | Endpoint | Test Duration (hr) | Species | Value | Source |
| | Not Available | Not Available | Not Available | Not Available | Not Available |
| Reaction products of paraformaldehyde and 2-hydroxypropylamine (ratio 3:2) | Endpoint | Test Duration (hr) | Species | Value | Source |
| | Not Available | Not Available | Not Available | Not Available | Not Available |
| Legend: | Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data | | | | |

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Do NOT allow product to come in contact with surface waters or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash-waters.

Wastes resulting from use of the product must be disposed of on site or at approved waste sites.

Prevent, by any means available, spillage from entering drains or water courses.

DO NOT discharge into sewer or waterways.

12.2. Persistence and degradability

| | | |
|------------|-------------------------|------------------|
| Ingredient | Persistence: Water/Soil | Persistence: Air |
|------------|-------------------------|------------------|

Continued...

| Ingredient | Persistence: Water/Soil | Persistence: Air |
|------------|---------------------------------------|---------------------------------------|
| | No Data available for all ingredients | No Data available for all ingredients |

12.3. Bioaccumulative potential

| Ingredient | Bioaccumulation |
|------------|---------------------------------------|
| | No Data available for all ingredients |

12.4. Mobility in soil

| Ingredient | Mobility |
|------------|---------------------------------------|
| | No Data available for all ingredients |

12.5. Results of PBT and vPvB assessment

| | P | B | T |
|-------------------------|---------------|---------------|---------------|
| Relevant available data | Not Available | Not Available | Not Available |
| PBT | ✗ | ✗ | ✗ |
| vPvB | ✗ | ✗ | ✗ |

| | |
|-------------------------|----|
| PBT Criteria fulfilled? | No |
| vPvB | No |

12.6. Endocrine disrupting properties

No evidence of endocrine disrupting properties were found in the current literature.

12.7. Other adverse effects

No evidence of ozone depleting properties were found in the current literature.




SECTION 13 Disposal considerations

13.1. Waste treatment methods

| | |
|-------------------------------------|---|
| Product / Packaging disposal | <ul style="list-style-type: none"> ▸ Containers may still present a chemical hazard/ danger when empty. ▸ Return to supplier for reuse/ recycling if possible. Otherwise: <ul style="list-style-type: none"> ▸ If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill. ▸ Recycle wherever possible. ▸ Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified. ▸ Treat and neutralise at an approved treatment plant. |
| Waste treatment options | Not Available |
| Sewage disposal options | Not Available |

SECTION 14 Transport information

Labels Required

| | |
|-------------------------|---|
| |   |
| Marine Pollutant |  |

Land transport (ADR-RID)

| | |
|-----------------------|------|
| 14.1. UN number or ID | 2922 |
|-----------------------|------|

| | | | | | | | | | | | | | |
|---|---|--------------------------------|----|---------------------|-----|--------------|--------|--------------------|-----|------------------|-----|-------------------------|---|
| number | | | | | | | | | | | | | |
| 14.2. UN proper shipping name | CORROSIVE LIQUID, TOXIC, N.O.S. (Reaction products of paraformaldehyde and 2-hydroxypropylamine (ratio 3:2)) | | | | | | | | | | | | |
| 14.3. Transport hazard class(es) | <table border="1"> <tr> <td>Class</td> <td>8</td> </tr> <tr> <td>Subsidiary Hazard</td> <td>6.1</td> </tr> </table> | Class | 8 | Subsidiary Hazard | 6.1 | | | | | | | | |
| Class | 8 | | | | | | | | | | | | |
| Subsidiary Hazard | 6.1 | | | | | | | | | | | | |
| 14.4. Packing group | II | | | | | | | | | | | | |
| 14.5. Environmental hazard | Environmentally hazardous | | | | | | | | | | | | |
| 14.6. Special precautions for user | <table border="1"> <tr> <td>Hazard identification (Kemler)</td> <td>86</td> </tr> <tr> <td>Classification code</td> <td>CT1</td> </tr> <tr> <td>Hazard Label</td> <td>8 +6.1</td> </tr> <tr> <td>Special provisions</td> <td>274</td> </tr> <tr> <td>Limited quantity</td> <td>1 L</td> </tr> <tr> <td>Tunnel Restriction Code</td> <td>E</td> </tr> </table> | Hazard identification (Kemler) | 86 | Classification code | CT1 | Hazard Label | 8 +6.1 | Special provisions | 274 | Limited quantity | 1 L | Tunnel Restriction Code | E |
| Hazard identification (Kemler) | 86 | | | | | | | | | | | | |
| Classification code | CT1 | | | | | | | | | | | | |
| Hazard Label | 8 +6.1 | | | | | | | | | | | | |
| Special provisions | 274 | | | | | | | | | | | | |
| Limited quantity | 1 L | | | | | | | | | | | | |
| Tunnel Restriction Code | E | | | | | | | | | | | | |

Air transport (ICAO-IATA / DGR)

| | | | | | | | | | | | | | | | |
|---|---|--------------------|------------|---------------------------------|-----|-------------------------------|------|--|-----|--|-----|---|------|--|-------|
| 14.1. UN number | 2922 | | | | | | | | | | | | | | |
| 14.2. UN proper shipping name | Corrosive liquid, toxic, n.o.s. * (Reaction products of paraformaldehyde and 2-hydroxypropylamine (ratio 3:2)) | | | | | | | | | | | | | | |
| 14.3. Transport hazard class(es) | <table border="1"> <tr> <td>ICAO/IATA Class</td> <td>8</td> </tr> <tr> <td>ICAO / IATA Subsidiary Hazard</td> <td>6.1</td> </tr> <tr> <td>ERG Code</td> <td>8P</td> </tr> </table> | ICAO/IATA Class | 8 | ICAO / IATA Subsidiary Hazard | 6.1 | ERG Code | 8P | | | | | | | | |
| ICAO/IATA Class | 8 | | | | | | | | | | | | | | |
| ICAO / IATA Subsidiary Hazard | 6.1 | | | | | | | | | | | | | | |
| ERG Code | 8P | | | | | | | | | | | | | | |
| 14.4. Packing group | II | | | | | | | | | | | | | | |
| 14.5. Environmental hazard | Environmentally hazardous | | | | | | | | | | | | | | |
| 14.6. Special precautions for user | <table border="1"> <tr> <td>Special provisions</td> <td>A3 A4 A803</td> </tr> <tr> <td>Cargo Only Packing Instructions</td> <td>855</td> </tr> <tr> <td>Cargo Only Maximum Qty / Pack</td> <td>30 L</td> </tr> <tr> <td>Passenger and Cargo Packing Instructions</td> <td>851</td> </tr> <tr> <td>Passenger and Cargo Maximum Qty / Pack</td> <td>1 L</td> </tr> <tr> <td>Passenger and Cargo Limited Quantity Packing Instructions</td> <td>Y840</td> </tr> <tr> <td>Passenger and Cargo Limited Maximum Qty / Pack</td> <td>0.5 L</td> </tr> </table> | Special provisions | A3 A4 A803 | Cargo Only Packing Instructions | 855 | Cargo Only Maximum Qty / Pack | 30 L | Passenger and Cargo Packing Instructions | 851 | Passenger and Cargo Maximum Qty / Pack | 1 L | Passenger and Cargo Limited Quantity Packing Instructions | Y840 | Passenger and Cargo Limited Maximum Qty / Pack | 0.5 L |
| Special provisions | A3 A4 A803 | | | | | | | | | | | | | | |
| Cargo Only Packing Instructions | 855 | | | | | | | | | | | | | | |
| Cargo Only Maximum Qty / Pack | 30 L | | | | | | | | | | | | | | |
| Passenger and Cargo Packing Instructions | 851 | | | | | | | | | | | | | | |
| Passenger and Cargo Maximum Qty / Pack | 1 L | | | | | | | | | | | | | | |
| Passenger and Cargo Limited Quantity Packing Instructions | Y840 | | | | | | | | | | | | | | |
| Passenger and Cargo Limited Maximum Qty / Pack | 0.5 L | | | | | | | | | | | | | | |

Sea transport (IMDG-Code / GGVSee)

| | | | | | | | |
|---|--|------------|----------|------------------------|-----|--------------------|-----|
| 14.1. UN number | 2922 | | | | | | |
| 14.2. UN proper shipping name | CORROSIVE LIQUID, TOXIC, N.O.S. (Reaction products of paraformaldehyde and 2-hydroxypropylamine (ratio 3:2)) | | | | | | |
| 14.3. Transport hazard class(es) | <table border="1"> <tr> <td>IMDG Class</td> <td>8</td> </tr> <tr> <td>IMDG Subsidiary Hazard</td> <td>6.1</td> </tr> </table> | IMDG Class | 8 | IMDG Subsidiary Hazard | 6.1 | | |
| IMDG Class | 8 | | | | | | |
| IMDG Subsidiary Hazard | 6.1 | | | | | | |
| 14.4. Packing group | II | | | | | | |
| 14.5. Environmental hazard | Marine Pollutant | | | | | | |
| 14.6. Special precautions for user | <table border="1"> <tr> <td>EMS Number</td> <td>F-A, S-B</td> </tr> <tr> <td>Special provisions</td> <td>274</td> </tr> <tr> <td>Limited Quantities</td> <td>1 L</td> </tr> </table> | EMS Number | F-A, S-B | Special provisions | 274 | Limited Quantities | 1 L |
| EMS Number | F-A, S-B | | | | | | |
| Special provisions | 274 | | | | | | |
| Limited Quantities | 1 L | | | | | | |

Inland waterways transport (ADN)

| | |
|--------------------------------------|--|
| 14.1. UN number | 2922 |
| 14.2. UN proper shipping name | CORROSIVE LIQUID, TOXIC, N.O.S. (Reaction products of paraformaldehyde and 2-hydroxypropylamine (ratio 3:2)) |

| | | |
|------------------------------------|---------------------------|----------------|
| 14.3. Transport hazard class(es) | 8 6.1 | |
| 14.4. Packing group | II | |
| 14.5. Environmental hazard | Environmentally hazardous | |
| 14.6. Special precautions for user | Classification code | CT1 |
| | Special provisions | 274; 802 |
| | Limited quantity | 1 L |
| | Equipment required | PP, EP, TOX, A |
| | Fire cones number | 2 |

14.7. Maritime transport in bulk according to IMO instruments

14.7.1. Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

14.7.2. Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

| Product name | Group |
|--|---------------|
| Reaction products of paraformaldehyde and 2-hydroxypropylamine (ratio 3:2) | Not Available |

14.7.3. Transport in bulk in accordance with the IGC Code

| Product name | Ship Type |
|--|---------------|
| Reaction products of paraformaldehyde and 2-hydroxypropylamine (ratio 3:2) | Not Available |

SECTION 15 Regulatory information

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

Reaction products of paraformaldehyde and 2-hydroxypropylamine (ratio 3:2) is found on the following regulatory lists

Not Applicable

This safety data sheet is in compliance with the following EU legislation and its adaptations - as far as applicable - : Directives 98/24/EC, - 92/85/EEC, - 94/33/EC, - 2008/98/EC, - 2010/75/EU; Commission Regulation (EU) 2020/878; Regulation (EC) No 1272/2008 as updated through ATPs.

Information according to 2012/18/EU (Seveso III):

| | |
|-----------------|----|
| Seveso Category | E2 |
|-----------------|----|

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

National Inventory Status

| National Inventory | Status |
|---|--------|
| Australia - AIIC / Australia Non-Industrial Use | Yes |
| Canada - DSL | Yes |
| Canada - NDSL | Yes |
| China - IECSC | Yes |
| Europe - EINEC / ELINCS / NLP | Yes |
| Japan - ENCS | Yes |
| Korea - KECI | Yes |
| New Zealand - NZIoC | Yes |

| National Inventory | Status |
|---------------------|---|
| Philippines - PICCS | Yes |
| USA - TSCA | Yes |
| Taiwan - TCSI | Yes |
| Mexico - INSQ | Yes |
| Vietnam - NCI | Yes |
| Russia - FBEPH | Yes |
| Legend: | Yes = All CAS declared ingredients are on the inventory No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration. |

SECTION 16 Other information

| | |
|---------------|------------|
| Revision Date | 11/11/2022 |
| Initial Date | 30/11/2017 |

CONTACT POINT

- For quotations contact your local Customer Services - <http://wssdirectory.wilhelmsen.com/#/customerservices> - - Responsible for safety data sheet Wilhelmsen Ships Service AS - Prepared by: Compliance Manager, - Email: wss.global.sdsinfo@wilhelmsen.com - Telephone: Tel.: +47 67584000

Full text Risk and Hazard codes

| | |
|------|----------------------------|
| H318 | Causes serious eye damage. |
|------|----------------------------|

SDS Version Summary

| Version | Date of Update | Sections Updated |
|---------|----------------|---|
| 9.24 | 11/11/2022 | Toxicological information - Acute Health (inhaled), Composition / information on ingredients - Ingredients, Identification of the substance / mixture and of the company / undertaking - Synonyms |

Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios.

For detailed advice on Personal Protective Equipment, refer to the following EU CEN Standards:

EN 166 Personal eye-protection

EN 340 Protective clothing

EN 374 Protective gloves against chemicals and micro-organisms

EN 13832 Footwear protecting against chemicals

EN 133 Respiratory protective devices

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