



RA:MAT SEALER PART B - RA13046

ICP Construction Inc

Version No: 3.7

Safety Data Sheet according to OSHA HazCom Standard (2024) requirements

Initial Date: 12/21/2016

Revision Date: 02/05/2026

Print Date: 02/05/2026

L.GHS.USA.EN

SECTION 1 Identification

Product Identifier

| | |
|-------------------------------|---|
| Product name | RA:MAT SEALER PART B - RA13046 |
| Synonyms | Not Available |
| Proper shipping name | Environmentally hazardous substance, liquid, n.o.s. ((contains 1-Aziridinepropanoic acid, 2-methyl-, 1,1'-[2-ethyl-2-[[3-(2-methyl-1-aziridinyl)-1-oxopropoxy]methyl]-1,3-propanediyl] ester) |
| Other means of identification | Not Available |

Recommended use of the chemical and restrictions on use

| | |
|--------------------------|------------------------------|
| Relevant identified uses | Part B of Mat sealing system |
|--------------------------|------------------------------|

Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

| | |
|-------------------------|--|
| Registered company name | ICP Construction Inc |
| Address | 150 Dascomb Road Andover MA 01810 United States |
| Telephone | 1-866-667-5119 1-978-623-9987 |
| Fax | Not Available |
| Website | www.icpgroup.com |
| Email | sds@icpgroup.com |

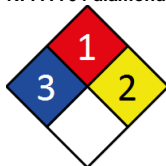
Emergency phone number

| | |
|-------------------------------------|----------------|
| Association / Organisation | ChemTel |
| Emergency telephone number(s) | 1-800-255-3924 |
| Other emergency telephone number(s) | 1-813-248-0585 |

SECTION 2 Hazard(s) identification

Classification of the substance or mixture

NFPA 704 diamond



Note: The hazard category numbers found in GHS classification in section 2 of this SDSs are NOT to be used to fill in the NFPA 704 diamond. Blue = Health, Red = Fire, Yellow = Reactivity and White = Special (Oxidizer or water reactive substances)

| | |
|----------------|---|
| Classification | Acute Toxicity (Oral) Category 4, Sensitisation (Skin) Category 1, Serious Eye Damage/Eye Irritation Category 1, Acute Toxicity (Inhalation) Category 2, Germ Cell Mutagenicity Category 2, Specific Target Organ Toxicity - Repeated Exposure Category 2 |
|----------------|---|

Label elements

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

Hazard statement(s)

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| | |
|------|--|
| H302 | Harmful if swallowed. |
| H317 | May cause an allergic skin reaction. |
| H318 | Causes serious eye damage. |
| H330 | Fatal if inhaled. |
| H341 | Suspected of causing genetic defects. |
| H373 | May cause damage to organs through prolonged or repeated exposure. (Kidneys) |

Hazard(s) not otherwise classified

Not Applicable

Precautionary statement(s) General

| | |
|------|---|
| P101 | If medical advice is needed, have product container or label at hand. |
| P102 | Keep out of reach of children. |
| P103 | Read carefully and follow all instructions. |

Precautionary statement(s) Prevention

| | |
|------|--|
| P201 | Obtain special instructions before use. |
| P260 | Do not breathe mist/vapours/spray. |
| P271 | Use only a well-ventilated area. |
| P280 | Wear protective gloves, protective clothing, eye protection and face protection. |
| P264 | Wash all exposed external body areas thoroughly after handling. |
| P270 | Do not eat, drink or smoke when using this product. |
| P284 | [In case of inadequate ventilation] wear respiratory protection. |
| P202 | Do not handle until all safety precautions have been read and understood. |
| P272 | Contaminated work clothing must not be allowed out of the workplace. |

Precautionary statement(s) Response

| | |
|----------------|--|
| P304+P340 | IF INHALED: Remove person to fresh air and keep comfortable for breathing. |
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P308+P313 | IF exposed or concerned: Get medical advice/ attention. |
| P302+P352 | IF ON SKIN: Wash with plenty of water and soap. |
| P314 | Get medical advice/attention if you feel unwell. |
| P333+P313 | If skin irritation or rash occurs: Get medical advice/attention. |
| P362+P364 | Take off contaminated clothing and wash it before reuse. |
| P301+P312 | IF SWALLOWED: Call a POISON CENTER/doctor/physician/first aider if you feel unwell. |
| P330 | Rinse mouth. |

Precautionary statement(s) Storage

| | |
|-----------|--|
| P403+P233 | Store in a well-ventilated place. Keep container tightly closed. |
| 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. |
|------|--|

No further product hazard information.

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

See section below for composition of Mixtures

Mixtures

| CAS No | %[weight] | Name |
|------------|-----------|--|
| 64265-57-2 | 95-100 | <u>trimethylolpropane tris(2-methyl-1-aziridine)propionate</u> |
| 108-01-0 | 0.1-1 | <u>dimethylethanolamine</u> |

SECTION 4 First-aid measures**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 contact occurs:</p> <ul style="list-style-type: none"> ▶ Immediately remove all contaminated clothing, including footwear. ▶ Flush skin and hair with running water (and soap if available). ▶ Seek medical attention in event of irritation. |

Continued...

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| | |
|-------------------|---|
| 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, without delay. |
| Ingestion | <ul style="list-style-type: none"> ▶ IF SWALLOWED, REFER FOR MEDICAL ATTENTION, WHERE POSSIBLE, WITHOUT DELAY. ▶ For advice, contact a Poisons Information Centre or a doctor. ▶ Urgent hospital treatment is likely to be needed. ▶ In the mean time, qualified first-aid personnel should treat the patient following observation and employing supportive measures as indicated by the patient's condition. ▶ If the services of a medical officer or medical doctor are readily available, the patient should be placed in his/her care and a copy of the SDS should be provided. Further action will be the responsibility of the medical specialist. ▶ If medical attention is not available on the worksite or surroundings send the patient to a hospital together with a copy of the SDS. <p>Where medical attention is not immediately available or where the patient is more than 15 minutes from a hospital or unless instructed otherwise:</p> <ul style="list-style-type: none"> ▶ INDUCE vomiting with fingers down the back of the throat, ONLY IF CONSCIOUS. Lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration. <p>NOTE: Wear a protective glove when inducing vomiting by mechanical means.</p> |

Most important symptoms and effects, both acute and delayed

See Section 11

Indication of any immediate medical attention and special treatment needed

As in all cases of suspected poisoning, follow the ABCDEs of emergency medicine (airway, breathing, circulation, disability, exposure), then the ABCDEs of toxicology (antidotes, basics, change absorption, change distribution, change elimination).

For poisons (where specific treatment regime is absent):

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.
- ▶ **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.

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.

BRONSTEIN, A.C. and CURRANCE, P.L.

EMERGENCY CARE FOR HAZARDOUS MATERIALS EXPOSURE: 2nd Ed. 1994

Treat symptomatically.

SECTION 5 Fire-fighting measures**Extinguishing media**

- ▶ Water
- ▶ Foam
- ▶ Dry Chemical
- ▶ Do NOT use carbon dioxide

Special hazards arising from the substrate or mixture

| | |
|-----------------------------|--|
| Fire Incompatibility | ▶ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result |
|-----------------------------|--|

Special protective equipment and precautions for fire-fighters

| | |
|------------------------------|--|
| Fire Fighting | <ul style="list-style-type: none"> ▶ Alert Fire Brigade and tell them location and nature of hazard. ▶ May be violently or explosively reactive. |
| Fire/Explosion Hazard | <ul style="list-style-type: none"> ▶ Combustible. ▶ Slight fire hazard when exposed to heat or flame. <p>Combustion products include:</p> <ul style="list-style-type: none"> ▶ carbon dioxide (CO₂) ▶ nitrogen oxides (NO_x) ▶ other pyrolysis products typical of burning organic material. |

SECTION 6 Accidental release measures**Personal precautions, protective equipment and emergency procedures**

See section 8

Environmental precautions

See section 12

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Methods and material for containment and cleaning up

| | |
|---------------------|--|
| Minor Spills | Environmental hazard - contain spillage. <ul style="list-style-type: none"> ▶ Clean up all spills immediately. ▶ Avoid breathing vapours and contact with skin and eyes. |
| Major Spills | Environmental hazard - contain spillage. Moderate hazard. <ul style="list-style-type: none"> ▶ Clear area of personnel and move upwind. |

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

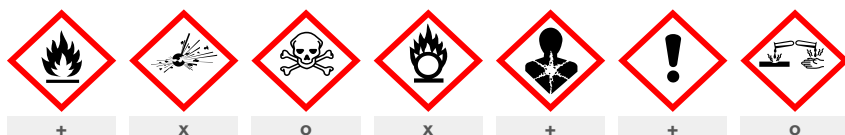
SECTION 7 Handling and storage

Precautions for safe handling

| | |
|--------------------------|---|
| Safe handling | <ul style="list-style-type: none"> ▶ Most acrylic monomers have low viscosity therefore pouring, material transfer and processing of these materials do not necessitate heating. ▶ Viscous monomers may require heating to facilitate handling. ▶ Avoid skin contact, including inhalation. ▶ Wear protective clothing when risk of exposure occurs. ▶ DO NOT allow clothing wet with material to stay in contact with skin |
| Other information | <ul style="list-style-type: none"> · Ethyleneimine or propyleneimine polymers should be stored in a dry and cool place within tightly sealed original packaging. High temperatures and direct sunlight can result in a coloured product and surface films. · Consider storage under inert gas. <ul style="list-style-type: none"> ▶ Polymerisation may occur slowly at room temperature. ▶ Storage requires stabilising inhibitor content and dissolved oxygen content to be monitored. Refer to manufacturer's recommended levels. ▶ Store below 38 deg. C. ▶ Store in original containers. ▶ Keep containers securely sealed. |

Conditions for safe storage, including any incompatibilities

| | |
|--------------------------------|--|
| Suitable container | <ul style="list-style-type: none"> ▶ Metal can or drum ▶ Packaging as recommended by manufacturer. ▶ Check all containers are clearly labelled and free from leaks. |
| Storage incompatibility | <p>Ethyleneimine or propyleneimine polymers:</p> <ul style="list-style-type: none"> · as cationic substances, are compatible with cationic or non-ionic systems · form salts with anionic systems; these salts may precipitate; anionic dispersions may be broken · react with aldehydes and ketones and acidic gases · may change the colour produced by dyes and coloured pigments as a result of the cationic nature of the polymer · bind reversibly th heavy metal salts (in the manner of EDTA) and in particular to bivalent metals such as Zn, Hg, Cu, Pb, Ni, Cd) and some tri and monovalent metal ions (Rh, Fe, Cr, Ag) <ul style="list-style-type: none"> ▶ Reacts vigorously with acids ▶ Several derivatives of the highly reactive aziridine (a strained ring compound) show explosive instability. ▶ In the presence of acids these compounds may be chemically reactive and may be subject to aqueous auto-catalysed exothermic polymerisation, which may be violent if uncontrolled by dilution, slow addition or cooling. ▶ Avoid any contamination of this material as it is very reactive and any contamination is potentially hazardous ▶ Segregate from alcohol, water. <p>for multifunctional acrylates:</p> <ul style="list-style-type: none"> ▶ Avoid exposure to free radical initiators (peroxides, persulfates) , iron, rust, oxidisers, and strong acids and strong bases. ▶ Avoid heat, flame, sunlight, X-rays or ultra-violet radiation. |



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.

SECTION 8 Exposure controls / personal protection

Control parameters

Occupational Exposure Limits (OEL)

INGREDIENT DATA

Not Available

Emergency Limits

| Ingredient | TEEL-1 | TEEL-2 | TEEL-3 |
|---|---------------|---------------|--------|
| dimethylethanolamine | 3.7 ppm | 40 ppm | 72 ppm |
| Ingredient | Original IDLH | Revised IDLH | |
| trimethylolpropane tris(2-methyl-1-aziridine)propionate | Not Available | Not Available | |
| dimethylethanolamine | Not Available | Not Available | |

MATERIAL DATA


CEL TWA: 1 mg/m³ [compare WEEL-TWA* for multifunctional acrylates (MFAs)]
(CEL = Chemwatch Exposure Limit)

Continued...

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Exposure to MFAs has been reported to cause contact dermatitis in humans and serious eye injury in laboratory animals. Exposure to some MFA-resin containing aerosols has also been reported to cause dermatitis.

Exposure controls

| | | | | | | | |
|--|---|---|---|--|---|---|---|
| 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. | | | | | | |
| Individual protection measures, such as personal protective equipment |  | | | | | | |
| Eye and face protection | <ul style="list-style-type: none"> ▶ Safety glasses with side shields. ▶ Chemical goggles. | | | | | | |
| Skin protection | See Hand protection below | | | | | | |
| Hands/feet protection | <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. <p>The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.</p> <p>General warning: Do NOT use latex gloves! Use only recommended gloves - using the wrong gloves may increase the risk:</p> <table border="1"> <tr> <td>Exposure condition Short time use; (few minutes less than 0.5 hour) Little physical stress</td> <td>Use of thin nitrile rubber gloves: Nitrile rubber (0.1 mm) Excellent tactility ('feel'), powder-free Disposable Inexpensive Give adequate protection to low molecular weigh acrylic monomers</td> </tr> <tr> <td>Exposure condition Medium time use; less than 4 hours Physical stress (opening drums, using tools, etc.)</td> <td>Use of medium thick nitrile rubber gloves Nitrile rubber, NRL (latex) free; <0.45 mm Moderate tactility ('feel'), powder-free Disposable Moderate price Gives adequate protection for most acrylates up to 4 hours Do NOT give adequate protection to low molecular weight monomers at exposures longer than 1 hour</td> </tr> <tr> <td>Exposure condition Long time Cleaning operations</td> <td>Nitrile rubber, NRL (latex) free; >0.56 mm low tactility ('feel'), powder free High price Gives adequate protection for most acrylates in combination with commonly used solvents up to 8 hours Do NOT give adequate protection to low molecular weight monomers at exposures longer than 1 hour Avoid use of ketones and acetates in wash-up solutions.</td> </tr> </table> <p>Where none of this gloves ensure safe handling (for example in long term handling of acrylates containing high levels of acetates and/ or ketones, use laminated multilayer gloves. Guide to the Classification and Labelling of UV/EB Acrylates Third edition, 231 October 2007 - Cefic</p> <ul style="list-style-type: none"> ▶ Neoprene rubber gloves | Exposure condition Short time use; (few minutes less than 0.5 hour) Little physical stress | Use of thin nitrile rubber gloves: Nitrile rubber (0.1 mm) Excellent tactility ('feel'), powder-free Disposable Inexpensive Give adequate protection to low molecular weigh acrylic monomers | Exposure condition Medium time use; less than 4 hours Physical stress (opening drums, using tools, etc.) | Use of medium thick nitrile rubber gloves Nitrile rubber, NRL (latex) free; <0.45 mm Moderate tactility ('feel'), powder-free Disposable Moderate price Gives adequate protection for most acrylates up to 4 hours Do NOT give adequate protection to low molecular weight monomers at exposures longer than 1 hour | Exposure condition Long time Cleaning operations | Nitrile rubber, NRL (latex) free; >0.56 mm low tactility ('feel'), powder free High price Gives adequate protection for most acrylates in combination with commonly used solvents up to 8 hours Do NOT give adequate protection to low molecular weight monomers at exposures longer than 1 hour Avoid use of ketones and acetates in wash-up solutions. |
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| Body protection | See Other protection below | | | | | | |
| Other protection | <ul style="list-style-type: none"> ▶ Overalls. ▶ P.V.C apron. | | | | | | |

Respiratory protection

Full face respirator with supplied air.

- ▶ Cartridge respirators should never be used for emergency ingress or in areas of unknown vapour concentrations or oxygen content.
- ▶ The wearer must be warned to leave the contaminated area immediately on detecting any odours through the respirator. The odour may indicate that the mask is not functioning properly, that the vapour concentration is too high, or that the mask is not properly fitted. Because of these limitations, only restricted use of cartridge respirators is considered appropriate.
- ▶ Cartridge performance is affected by humidity. Cartridges should be changed after 2 hr of continuous use unless it is determined that the humidity is less than 75%, in which case, cartridges can be used for 4 hr. Used cartridges should be discarded daily, regardless of the length of time used

SECTION 9 Physical and chemical properties

Information on basic physical and chemical properties

| Appearance | Text | | |
|---|---------------|--|---------------|
| Physical state | Liquid | Relative density (Water = 1) | Not Available |
| Odour | Not Available | Partition coefficient n-octanol / water | Not Available |
| Odour threshold | Not Available | Auto-ignition temperature (°C) | 345 |
| pH (as supplied) | Not Available | Decomposition temperature (°C) | >175 |
| Melting point / freezing point (°C) | Not Available | Viscosity (cSt) | Not Available |
| Initial boiling point and boiling range (°C) | >175 | Molecular weight (g/mol) | Not Available |
| Flash point (°C) | Not Available | Taste | Not Available |

Continued...

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| | | | |
|--|------------------------|---|---------------|
| Evaporation rate | Not Available BuAC = 1 | Explosive properties | Not Available |
| Flammability | Not Applicable | Oxidising properties | Not Available |
| Upper Explosive Limit (%) | Not Available | Surface Tension (dyn/cm or mN/m) | Not Available |
| Lower Explosive Limit (%) | Not Available | Volatile Component (%vol) | Not Available |
| Vapour pressure (kPa) | Not Available | Gas group | Not Available |
| Solubility in water | Immiscible | pH as a solution (1%) | Not Available |
| Vapour density (Air = 1) | Not Available | VOC g/L | Not Available |
| Heat of Combustion (kJ/g) | Not Available | Ignition Distance (cm) | Not Available |
| Flame Height (cm) | Not Available | Flame Duration (s) | Not Available |
| Enclosed Space Ignition Time Equivalent (s/m3) | Not Available | Enclosed Space Ignition Deflagration Density (g/m3) | Not Available |
| Nanoform Solubility | Not Available | Nanoform Particle Characteristics | Not Available |
| Particle Size | Not Available | | |

SECTION 10 Stability and reactivity

| | |
|------------------------------------|--|
| Reactivity | See section 7 |
| Chemical stability | <ul style="list-style-type: none"> ▶ Unstable in the presence of incompatible materials. ▶ Product is considered stable. |
| Possibility of hazardous reactions | See section 7 |
| Conditions to avoid | See section 7 |
| Incompatible materials | See section 7 |
| Hazardous decomposition products | See section 5 |

SECTION 11 Toxicological information

Information on toxicological effects

| | |
|--------------------------------------|--|
| a) Acute Toxicity | There is sufficient evidence to classify this material as acutely toxic. |
| b) Skin Irritation/Corrosion | Based on available data, the classification criteria are not met. |
| c) Serious Eye Damage/Irritation | There is sufficient evidence to classify this material as eye damaging or irritating |
| d) Respiratory or Skin sensitisation | There is sufficient evidence to classify this material as sensitising to skin or the respiratory system |
| e) Mutagenicity | There is sufficient evidence to classify this material as mutagenic |
| f) Carcinogenicity | Based on available data, the classification criteria are not met. |
| g) Reproductivity | Based on available data, the classification criteria are not met. |
| h) STOT - Single Exposure | Based on available data, the classification criteria are not met. |
| i) STOT - Repeated Exposure | There is sufficient evidence to classify this material as toxic to specific organs through repeated exposure |
| j) Aspiration Hazard | Based on available data, the classification criteria are not met. |

| | |
|--------------|---|
| Inhaled | <p>The material is not thought to produce respiratory irritation (as classified by EC Directives using animal models). Nevertheless inhalation of vapours, fumes or aerosols, especially for prolonged periods, may produce respiratory discomfort and occasionally, distress. Inhalation of vapours or aerosols (mists, fumes), generated by the material during the course of normal handling, may produce severe damage to the health of the individual. Relatively small amounts absorbed through the lungs may prove fatal. No report of respiratory illness in humans as a result of exposure to multifunctional acrylates has been found. Similarly evidence of systemic damage does not appear to exist. Inhalation hazard is increased at higher temperatures.</p> |
| Ingestion | <p>Accidental ingestion of the material may be harmful; animal experiments indicate that ingestion of less than 150 gram may be fatal or may produce serious damage to the health of the individual. The main features defining a nootropic drugs (cognitive enhancers) are:</p> <ul style="list-style-type: none"> ▶ the enhancement of learning and memory acquisition ▶ protection of the brain against various physical or chemical injury ▶ facilitation of flow of information between the hemispheres of the brain ▶ absence of usual negative effects of psychotropic drugs particularly central nervous system toxicity. <p>Extensive study of the modes of action of the nootropics reveals certain pharmacological effects There appears to be no single predominant mode of action shared by the whole class of drugs, however all influence cholinergic function. High molecular weight material; on single acute exposure would be expected to pass through gastrointestinal tract with little change / absorption. Occasionally accumulation of the solid material within the alimentary tract may result in formation of a bezoar (concretion), producing discomfort.</p> |
| Skin Contact | <p>All multifunctional acrylates (MFA) produce skin discomfort and are known or suspected skin sensitisers. Aerosols generated in the industrial process are reported to produce dermatitis - vapours generated by the heat of milling may also occur in sufficient concentration to produce dermatitis. Open cuts, abraded or irritated skin should not be exposed to this material. 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> <p>The material produces severe skin irritation; evidence exists, or practical experience predicts, that the material either:</p> <ul style="list-style-type: none"> ▶ produces severe inflammation of the skin in a substantial number of individuals following direct contact, and/or ▶ produces significant and severe inflammation when applied to the healthy intact skin of animals (for up to four hours), such inflammation being present twenty-four hours or more after the end of the exposure period. ▶ Skin irritation may also be present after prolonged or repeated exposure; this may result in a form of contact dermatitis (nonallergic). |

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| Eye | When applied to the eye(s) of animals, the material produces severe ocular lesions which are present twenty-four hours or more after instillation. | | | | | | | | | | | | | |
|--|---|----------|------------|---|--|---|---|--|--|--|--|--|---|--|
| Chronic | <p>Repeated or long-term occupational exposure is likely to produce cumulative health effects involving organs or biochemical systems. 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.</p> <p>The polymer contained in this product has a reactive group generally considered to be of high concern (US EPA). Ethyleneimines are alkylating agents which may be carcinogenic and toxic to the male reproductive system.</p> <p>The material contains a substantial proportion of a polymer considered to be of low concern (PLC). The trend towards production of lower molecular weight polymers (thus reducing the required level of solvent use and creating a more 'environmentally-friendly' material) has brought with it the need to define PLCs as those having molecular weights of between 1000 and 10000 and containing less than 10% of the molecules with molecular weight below 500 and less than 25% of the molecules with a molecular weight below 1000.</p> <p>Substance containing one or more aziridinyl moieties may produce chromosome breaks in test systems (root-tips of Vicia-faba, cell cultures of Chinese hamster). Di- and tri-functional substances appear to produce greater chromatid aberration than do their monofunctional counterparts.</p> <p>Alkylating agents may damage the stem cell which acts as the precursor to components of the blood. Loss of the stem cell may result in pancytopenia (a reduction in the number of red and white blood cells and platelets) with a latency period corresponding to the lifetime of the individual blood cells.</p> <p>On the basis, primarily, of animal experiments, concern has been expressed that the material may produce carcinogenic or mutagenic effects; in respect of the available information, however, there presently exists inadequate data for making a satisfactory assessment.</p> <p>All multifunctional acrylates (MFA) produce skin discomfort and are known or suspected skin sensitisers. Aerosols generated in the industrial process are reported to produce dermatitis - vapours generated by the heat of milling may also occur in sufficient concentration to produce dermatitis.</p> | | | | | | | | | | | | | |
| RA:MAT SEALER PART B - RA13046 | <table border="1"> <thead> <tr> <th data-bbox="368 779 869 817">TOXICITY</th> <th data-bbox="869 779 1508 817">IRRITATION</th> </tr> </thead> <tbody> <tr> <td data-bbox="368 817 869 884">Not Available</td> <td data-bbox="869 817 1508 884">Not Available</td> </tr> </tbody> </table> | TOXICITY | IRRITATION | Not Available | Not Available | | | | | | | | | |
| TOXICITY | IRRITATION | | | | | | | | | | | | | |
| Not Available | Not Available | | | | | | | | | | | | | |
| trimethylolpropane tris(2-methyl-1-aziridine)propionate | <table border="1"> <thead> <tr> <th data-bbox="368 884 869 929">TOXICITY</th> <th data-bbox="869 884 1508 929">IRRITATION</th> </tr> </thead> <tbody> <tr> <td data-bbox="368 929 869 974">dermal (rat) LD50: >2000 mg/kg^[2]</td> <td data-bbox="869 929 1508 974">Eye: adverse effect observed (irritating)^[1]</td> </tr> <tr> <td data-bbox="368 974 869 1019">Inhalation (Rat) LC50: 0.252 mg/L4h^[2]</td> <td data-bbox="869 974 1508 1019">Skin (Rodent - rabbit): 500uL/4H - Mild</td> </tr> <tr> <td data-bbox="368 1019 869 1070">Oral (Rat) LD50: 3038 mg/kg^[2]</td> <td data-bbox="869 1019 1508 1070">Skin: no adverse effect observed (not irritating)^[1]</td> </tr> </tbody> </table> | TOXICITY | IRRITATION | dermal (rat) LD50: >2000 mg/kg ^[2] | Eye: adverse effect observed (irritating) ^[1] | Inhalation (Rat) LC50: 0.252 mg/L4h ^[2] | Skin (Rodent - rabbit): 500uL/4H - Mild | Oral (Rat) LD50: 3038 mg/kg ^[2] | Skin: no adverse effect observed (not irritating) ^[1] | | | | | |
| TOXICITY | IRRITATION | | | | | | | | | | | | | |
| dermal (rat) LD50: >2000 mg/kg ^[2] | Eye: adverse effect observed (irritating) ^[1] | | | | | | | | | | | | | |
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| dimethylethanolamine | <table border="1"> <thead> <tr> <th data-bbox="368 1070 869 1115">TOXICITY</th> <th data-bbox="869 1070 1508 1115">IRRITATION</th> </tr> </thead> <tbody> <tr> <td data-bbox="368 1115 869 1160">Dermal (rabbit) LD50: 1219 mg/kg^[1]</td> <td data-bbox="869 1115 1508 1160">Eye (Rodent - rabbit): 5uL - Severe</td> </tr> <tr> <td data-bbox="368 1160 869 1205">Inhalation (Mouse) LC50: 3.25 mg/L4h^[2]</td> <td data-bbox="869 1160 1508 1205">Eye: adverse effect observed (irreversible damage)^[1]</td> </tr> <tr> <td data-bbox="368 1205 869 1249">Oral (Rat) LD50: 1182.7 mg/kg^[1]</td> <td data-bbox="869 1205 1508 1249">Skin (Rodent - rabbit): 445mg - Mild</td> </tr> <tr> <td data-bbox="368 1249 869 1294"></td> <td data-bbox="869 1249 1508 1294">Skin: adverse effect observed (corrosive)^[1]</td> </tr> <tr> <td data-bbox="368 1294 869 1332"></td> <td data-bbox="869 1294 1508 1332">Skin: adverse effect observed (irritating)^[1]</td> </tr> </tbody> </table> | TOXICITY | IRRITATION | Dermal (rabbit) LD50: 1219 mg/kg ^[1] | Eye (Rodent - rabbit): 5uL - Severe | Inhalation (Mouse) LC50: 3.25 mg/L4h ^[2] | Eye: adverse effect observed (irreversible damage) ^[1] | Oral (Rat) LD50: 1182.7 mg/kg ^[1] | Skin (Rodent - rabbit): 445mg - Mild | | Skin: adverse effect observed (corrosive) ^[1] | | Skin: adverse effect observed (irritating) ^[1] | |
| TOXICITY | IRRITATION | | | | | | | | | | | | | |
| Dermal (rabbit) LD50: 1219 mg/kg ^[1] | Eye (Rodent - rabbit): 5uL - Severe | | | | | | | | | | | | | |
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| | Skin: adverse effect observed (irritating) ^[1] | | | | | | | | | | | | | |
| 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 | | | | | | | | | | | | | |

| | | |
|--|---|--|
| RA:MAT SEALER PART B - RA13046 | 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. | |
| TRIMETHYLOLPROPANE TRIS(2-METHYL-1-AZIRIDINE)PROPIONATE | <p>Data for EC Number 939-180-9 Acute inhalation: Exposed rats showed several clinical signs (piloerection, lung effects, limbness etc.). Animals exposed to the test substance showed hypothermic reactions shortly after exposure and weight gain was negatively affected in surviving animals (statistically significant). Irritation Skin: In an acute dermal irritation/ corrosion study two batches of the test substance were applied to shaven skin of rabbits. The substances were kept on the skin for 4 hours (occlusive) and washed of with lukewarm water and soap. Eye irritation study: An eye irritation study according to current OECD/EC guidelines was conducted in compliance with GLP principles. In this study, 6 rabbits (3 males and 3 females) showed severe effects on the eyes the first 72 hours after treatment, which did not reverse after one week. Sensitisation: The substance elicits at a concentration of 0.25% an SI = 3 in an LLNA test, this substance is classified according to CLP Regulation (EC) No. 1272/2008 as skin sensitizer (Category 1A) and labeled as H317 'May cause an allergic skin Repeat dose toxicity: In the 28 -day oral repeated dose study effects were found at 100 mg/kg bw/day which were also considered significant and severe. The dose level fits within the guidance range values as described in table 3.9.3 of the CLP Regulation and adjusted for a 28 -day study. In addition, the microscopic findings in the kidneys together with increasing necrosis up to 300 mg/kg bw/d and mortality at this dose level are effects considered to be significant and adverse and support thus classification according to the CLP Regulation (EC) No 1272/2008 as STOT-RE Cat. 2, H373 'May cause damage to organs through prolonged or repeated exposure reaction'. Genetic toxicity: In vitro Ames tests are all positive. In addition, in vivo micronucleus studies are present instead of an in vitro chromosome aberration test, showing different outcomes. The substance is self classified as Muta Cat.2, H341 'Suspected of causing genetic defects' according to the CLP Regulation (EC) No. 1272/2008,</p> <p>As cationic polymers possess unique physical structures and surface properties, various kinds of cationic polymers have been developed over the past few decades for a wide spectrum of nanomedical applications in the central nervous system (CNS). Although cationic polymers could be successfully used for gene transfer, drug delivery, and diagnostic imaging, after entering into the CNS, they may cause neurotoxicity and induce CNS damage, which seriously limits their applications.</p> <p>The material may produce severe skin irritation after prolonged or repeated exposure, and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) thickening of the epidermis. Histologically there may be intercellular oedema of the spongy layer (spongiosis) and intracellular oedema of the epidermis.</p> | |
| DIMETHYLETHANOLAMINE | <p>Dimethylaminoethanol pyroglutamate increased choline and acetylcholine extracellular levels in the brain's prefrontal cortex in vivo in rat experiments. It further improved spatial memory and reduced scopolamine-induced memory deficits [46]. According to an electroencephalogram (EEG) analysis, supplements combining vitamins and minerals with compounds containing DMAE in humans for three months showed increased alertness, attention, and overall mood improvement [48]. DMAE also improved sleep quality and was able to induce lucid dreams]. The daily dosage should be 500–2000 mg in the form of DMAE bitartrate. It is contraindicated during pregnancy, lactation, and in patients with schizophrenia</p> <p>Asthma-like symptoms may continue for months or even years after exposure to the material ends. This may be due to a non-allergic condition known as reactive airways dysfunction syndrome (RADS) which can occur after exposure to high levels of highly irritating</p> | |

RA:MAT SEALER PART B - RA13046

| | | | | | |
|---|--|--|---------------------------------|--|----------|
| | <p>compound.</p> <p>While it is difficult to generalise about the full range of potential health effects posed by exposure to the many different amine compounds, characterised by those used in the manufacture of polyurethane and polyisocyanurate foams, it is agreed that overexposure to the majority of these materials may cause adverse health effects.</p> <ul style="list-style-type: none"> ▶ Many amine-based compounds can induce histamine liberation, which, in turn, can trigger allergic and other physiological effects, including bronchoconstriction or bronchial asthma and rhinitis. ▶ Systemic symptoms include headache, nausea, faintness, anxiety, a decrease in blood pressure, tachycardia (rapid heartbeat), itching, erythema (reddening of the skin), urticaria (hives), and facial edema (swelling). Systemic effects (those affecting the body) that are related to the pharmacological action of amines are usually transient. <p>Typically, there are four routes of possible or potential exposure: inhalation, skin contact, eye contact, and ingestion.</p> <p>Inhalation: Inhalation of vapors may, depending upon the physical and chemical properties of the specific product and the degree and length of exposure, result in moderate to severe irritation of the tissues of the nose and throat and can irritate the lungs. Products with higher vapour pressures have a greater potential for higher airborne concentrations. For dimethylethanolamine (DMAE) and selected salts and esters:</p> <p>Toxicology: Humans: 10 to 20 mg (0.042-0.084 mmol) of DMAE tartrate administered orally to humans, produced mild mental stimulation. At 20 mg/day (0.084 mmol), there was a gradual increase in muscle tone and perhaps an increased frequency of convulsions in susceptible individuals. The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin.</p> | | | | |
| <p>RA:MAT SEALER PART B - RA13046 & TRIMETHYLOLPROPANE TRIS(2-METHYL-1-AZIRIDINE)PROPIONATE</p> | <p>Laboratory (in vitro) and animal studies show, exposure to the material may result in a possible risk of irreversible effects, with the possibility of producing mutation.</p> <p>Polyethyleneimine (polyaziridine) has a number of uses in laboratory biology, especially tissue culture, but is also toxic to cells if used in excess. Toxicity is by two different mechanisms, the disruption of the cell membrane leading to necrotic cell death (immediate) and disruption of the mitochondrial membrane after internalisation leading to apoptosis (delayed).</p> <p>Polyfunctional aziridine (PFA) is increasingly used as a water-based crosslinker in two-component paints, paint primers, lacquers, topcoats and other protective coatings.</p> <p>UV (ultraviolet)/ EB (electron beam) acrylates are generally of low toxicity UV/EB acrylates are divided into two groups; 'stenomeric' and 'eurymeric' acrylates.</p> <p>The first group consists of well-defined acrylates which can be described by a simple idealised chemical; they are low molecular weight species with a very narrow weight distribution profile.</p> <p>Based on the available oncogenicity data and without a better understanding of the carcinogenic mechanism the Health and Environmental Review Division (HERD), Office of Toxic Substances (OTS), of the US EPA previously concluded that all chemicals that contain the acrylate or methacrylate moiety (CH₂=CHCOO or CH₂=C(CH₃)COO) should be considered to be a carcinogenic hazard unless shown otherwise by adequate testing.</p> <p>This position has now been revised and acrylates and methacrylates are no longer <i>de facto</i> carcinogens.</p> <p>Where no 'official' classification for acrylates and methacrylates exists, there has been cautious attempts to create classifications in the absence of contrary evidence. For example Monoalkyl or monoarylestere of acrylic acids should be classified as R36/37/38 and R51/53 Monoalkyl or monoaryl esters of methacrylic acid should be classified as R36/37/38</p> | | | | |
| <p>RA:MAT SEALER PART B - RA13046 & DIMETHYLETHANOLAMINE</p> | <p>main concern with pharmaceutical drugs and dietary supplements are adverse effects. Long-term safety evidence is typically unavailable for many nootropic compounds.</p> | | | | |
| <p>TRIMETHYLOLPROPANE TRIS(2-METHYL-1-AZIRIDINE)PROPIONATE & DIMETHYLETHANOLAMINE</p> | <p>The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.</p> | | | | |
| <p>Acute Toxicity</p> | <p>✓</p> | | <p>Carcinogenicity</p> | | <p>✗</p> |
| <p>Skin Irritation/Corrosion</p> | <p>✗</p> | | <p>Reproductivity</p> | | <p>✗</p> |
| <p>Serious Eye Damage/Irritation</p> | <p>✓</p> | | <p>STOT - Single Exposure</p> | | <p>✗</p> |
| <p>Respiratory or Skin sensitisation</p> | <p>✓</p> | | <p>STOT - Repeated Exposure</p> | | <p>✓</p> |
| <p>Mutagenicity</p> | <p>✓</p> | | <p>Aspiration Hazard</p> | | <p>✗</p> |

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

SECTION 12 Ecological information

Toxicity

| <p>RA:MAT SEALER PART B - RA13046</p> | <table border="1"> <thead> <tr> <th>Endpoint</th> <th>Test Duration (hr)</th> <th>Species</th> <th>Value</th> <th>Source</th> </tr> </thead> <tbody> <tr> <td>Not Available</td> <td>Not Available</td> <td>Not Available</td> <td>Not Available</td> <td>Not Available</td> </tr> </tbody> </table> | Endpoint | Test Duration (hr) | Species | Value | Source | Not Available | Not Available | Not Available | Not Available | Not Available | | | | | | | | | | | | | | | |
|--|--|-------------------------------|--------------------|---------------|-------|--------|---------------|---------------|-------------------------------|---------------|---------------|-----------|---------------|-------------------------------|-----------|---------------|----------|-----|-----------|----------|---------------|------|-----|------|------------|---|
| Endpoint | Test Duration (hr) | Species | Value | Source | | | | | | | | | | | | | | | | | | | | | | |
| Not Available | Not Available | Not Available | Not Available | Not Available | | | | | | | | | | | | | | | | | | | | | | |
| <p>trimethylolpropane tris(2-methyl-1-aziridine)propionate</p> | <table border="1"> <thead> <tr> <th>Endpoint</th> <th>Test Duration (hr)</th> <th>Species</th> <th>Value</th> <th>Source</th> </tr> </thead> <tbody> <tr> <td>EC50</td> <td>48h</td> <td>Crustacea</td> <td>81mg/l</td> <td>Not Available</td> </tr> <tr> <td>EC50(ECx)</td> <td>Not Available</td> <td>Algae or other aquatic plants</td> <td>5.5mg/l</td> <td>Not Available</td> </tr> <tr> <td>LC50</td> <td>96h</td> <td>Fish</td> <td>100mg/l</td> <td>Not Available</td> </tr> </tbody> </table> | Endpoint | Test Duration (hr) | Species | Value | Source | EC50 | 48h | Crustacea | 81mg/l | Not Available | EC50(ECx) | Not Available | Algae or other aquatic plants | 5.5mg/l | Not Available | LC50 | 96h | Fish | 100mg/l | Not Available | | | | | |
| Endpoint | Test Duration (hr) | Species | Value | Source | | | | | | | | | | | | | | | | | | | | | | |
| EC50 | 48h | Crustacea | 81mg/l | Not Available | | | | | | | | | | | | | | | | | | | | | | |
| EC50(ECx) | Not Available | Algae or other aquatic plants | 5.5mg/l | Not Available | | | | | | | | | | | | | | | | | | | | | | |
| LC50 | 96h | Fish | 100mg/l | Not Available | | | | | | | | | | | | | | | | | | | | | | |
| <p>dimethylethanolamine</p> | <table border="1"> <thead> <tr> <th>Endpoint</th> <th>Test Duration (hr)</th> <th>Species</th> <th>Value</th> <th>Source</th> </tr> </thead> <tbody> <tr> <td>EC50</td> <td>72h</td> <td>Algae or other aquatic plants</td> <td>35mg/l</td> <td>1</td> </tr> <tr> <td>EC50</td> <td>48h</td> <td>Crustacea</td> <td>98.77mg/l</td> <td>1</td> </tr> <tr> <td>EC0(ECx)</td> <td>48h</td> <td>Crustacea</td> <td>62.5mg/l</td> <td>1</td> </tr> <tr> <td>LC50</td> <td>96h</td> <td>Fish</td> <td>88-131mg/l</td> <td>1</td> </tr> </tbody> </table> | Endpoint | Test Duration (hr) | Species | Value | Source | EC50 | 72h | Algae or other aquatic plants | 35mg/l | 1 | EC50 | 48h | Crustacea | 98.77mg/l | 1 | EC0(ECx) | 48h | Crustacea | 62.5mg/l | 1 | LC50 | 96h | Fish | 88-131mg/l | 1 |
| Endpoint | Test Duration (hr) | Species | Value | Source | | | | | | | | | | | | | | | | | | | | | | |
| EC50 | 72h | Algae or other aquatic plants | 35mg/l | 1 | | | | | | | | | | | | | | | | | | | | | | |
| EC50 | 48h | Crustacea | 98.77mg/l | 1 | | | | | | | | | | | | | | | | | | | | | | |
| EC0(ECx) | 48h | Crustacea | 62.5mg/l | 1 | | | | | | | | | | | | | | | | | | | | | | |
| LC50 | 96h | Fish | 88-131mg/l | 1 | | | | | | | | | | | | | | | | | | | | | | |
| <p>Legend:</p> | <p>Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. US EPA, Ecotox database - Aquatic Toxicity Data 4. ECETOC Aquatic Hazard Assessment Data 5. NITE (Japan) - Bioconcentration Data 6. METI (Japan) - Bioconcentration Data 7. Vendor Data</p> | | | | | | | | | | | | | | | | | | | | | | | | | |

RA:MAT SEALER PART B - RA13046

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.

For high molecular weight synthetic polymers: (according to the Sustainable Futures (SF) program (U.S. EPA 2005b; U.S. EPA 2012c) polymer assessment guidance.)

High MW polymers are expected:

- to have low vapour pressure and are not expected to undergo volatilization .
- to adsorb strongly to soil and sediment

- to be non-biodegradable (not anticipated to be assimilated by microorganisms.- therefore, biodegradation is not expected to be an important removal process. However many exceptions exist

High MW polymers are not expected to undergo removal by other degradative processes under environmental conditions

For Lupasol G35 (an ethyleneimine polymer):

Environmental fate:

Poorly biodegradable; may eliminated from water by adsorption on activated sludge

Chemical oxygen demand (COD): 950 mg/g

Ecotoxicity:

Fish LC50 (96 h): 1-10 mg/l

Fish LC50 (96 h): >0.22 < 0.46 mg/l, *Leuciscus idus* (Lupasol WF)

Fish LC50 (48 hr): 0.22 mg/l, *Leuciscus idus* (Lupasol WF)

Microorganisms EC10 (0.5 h): 0.4 mg/l (DIN 38412 Part 27)

Inhibition of degradation activity in activated sludge is not anticipated during correct introduction of low concentrations

For Lupasol WF

Toxicity to bacteria: > 10 mg/l, Warburg test

EC/LC50 (17hr): 0-41 mg/l *Pseudomonas putida*

EC/LC30 (17hr): 0.11 mg/l *Pseudomonas putida*

For organic cationics

Cationic substances, and their polymers and those polymers that are reasonably anticipated to become cationic in the natural aquatic environment (pH range 4-9) may be environmental hazards.

Exempt from this concern are those polymers to be used only in solid phase, such as ion-exchange resins, and where the FGEW (Functional Group Equivalent Weight) of cationic groups is not 5000 and above.

Substances containing unsaturated carbons are ubiquitous in indoor environments. They result from many sources (see below).

DO NOT discharge into sewer or waterways.

Persistence and degradability

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

Bioaccumulative potential

| Ingredient | Bioaccumulation |
|----------------------|----------------------|
| dimethylethanolamine | LOW (LogKOW = -0.94) |

Mobility in soil

| Ingredient | Mobility |
|----------------------|------------------------|
| dimethylethanolamine | HIGH (Log KOC = 1.602) |

Other adverse effects

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

SECTION 13 Disposal considerations

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. <p>Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area.</p> <ul style="list-style-type: none"> ▶ DO NOT allow wash water from cleaning or process equipment to enter drains. ▶ It may be necessary to collect all wash water for treatment before disposal. ▶ Recycle wherever possible or consult manufacturer for recycling options. ▶ Consult State Land Waste Authority for disposal. |
|-------------------------------------|---|

SECTION 14 Transport information

Labels Required

| | |
|-------------------------|---|
| |  |
| Marine Pollutant | NO |

Shipping container, transport vehicle placarding, and labeling may vary from the below information. This depends on the quantity shipped, the applicability of excepted quantity requirements, limited quantity requirements, and/or special provisions according to US DOT, IATA and IMDG regulations. In case of reshipment, it is the responsibility of the shipper to determine the appropriate labels and markings in accordance with applicable transport regulations.

Land transport (DOT)

| | |
|-------------------------------|---|
| 14.1. UN number or ID number | 3082 |
| 14.2. UN proper shipping name | Environmentally hazardous substance, liquid, n.o.s. ((contains 1-Aziridinepropanoic acid, 2-methyl-, 1,1'-[2-ethyl-2-[[3-(2-methyl-1-aziridinyl)-1-oxopropoxy]methyl]-1,3-propanediyl] ester) |

Continued...

RA:MAT SEALER PART B - RA13046

| | | |
|------------------------------------|--------------------|---|
| 14.3. Transport hazard class(es) | Class | 9 |
| | Subsidiary Hazard | Not Applicable |
| 14.4. Packing group | III | |
| 14.5. Environmental hazard | Not Applicable | |
| 14.6. Special precautions for user | Hazard Label | 9 |
| | Special provisions | 8, 146, 173, 335, 441, IB3, T4, TP1, TP29 |

Air transport (ICAO-IATA / DGR)

| | | |
|------------------------------------|---|--------------------|
| 14.1. UN number | 3082 | |
| 14.2. UN proper shipping name | Environmentally hazardous substance, liquid, n.o.s. ((contains 1-Aziridinepropanoic acid, 2-methyl-, 1,1'-[2-ethyl-2-[[3-(2-methyl-1-aziridinyl)-1-oxopropoxy]methyl]-1,3-propanediyl] ester) | |
| 14.3. Transport hazard class(es) | ICAO/IATA Class | 9 |
| | ICAO / IATA Subsidiary Hazard | Not Applicable |
| | ERG Code | 9L |
| 14.4. Packing group | III | |
| 14.5. Environmental hazard | Not Applicable | |
| 14.6. Special precautions for user | Special provisions | A97 A158 A197 A215 |
| | Cargo Only Packing Instructions | 964 |
| | Cargo Only Maximum Qty / Pack | 450 L |
| | Passenger and Cargo Packing Instructions | 964 |
| | Passenger and Cargo Maximum Qty / Pack | 450 L |
| | Passenger and Cargo Limited Quantity Packing Instructions | Y964 |
| | Passenger and Cargo Limited Maximum Qty / Pack | 30 kg G |

Sea transport (IMDG-Code / GGVSee)

| | | |
|------------------------------------|---|-----------------|
| 14.1. UN number | 3082 | |
| 14.2. UN proper shipping name | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(contains 1-Aziridinepropanoic acid, 2-methyl-, 1,1'-[2-ethyl-2-[[3-(2-methyl-1-aziridinyl)-1-oxopropoxy]methyl]-1,3-propanediyl] ester) | |
| 14.3. Transport hazard class(es) | IMDG Class | 9 |
| | IMDG Subsidiary Hazard | Not Applicable |
| 14.4. Packing group | III | |
| 14.5. Environmental hazard | Not Applicable | |
| 14.6. Special precautions for user | EMS Number | F-A, S-F |
| | Special provisions | 274 335 375 969 |
| | Limited Quantities | 5 L |

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 |
|---|----------------|
| trimethylolpropane tris(2-methyl-1-aziridine)propionate | Not Applicable |
| dimethylethanolamine | Not Applicable |

14.7.3. Transport in bulk in accordance with the IGC Code

| Product name | Ship Type |
|---|----------------|
| trimethylolpropane tris(2-methyl-1-aziridine)propionate | Not Applicable |
| dimethylethanolamine | Not Applicable |

SECTION 15 Regulatory information

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

trimethylolpropane tris(2-methyl-1-aziridine)propionate is found on the following regulatory lists

US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

dimethylethanolamine is found on the following regulatory lists

US - Massachusetts - Right To Know Listed Chemicals

US - New Jersey Right to Know - Special Health Hazard Substance List (SHHSL): Corrosives

Continued...

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US - New Jersey Right to Know Hazardous Substances
 US - Pennsylvania - Hazardous Substance List
 US DOE Temporary Emergency Exposure Limits (TEELs)
 US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

Additional Regulatory Information

Not Applicable

Federal Regulations**Superfund Amendments and Reauthorization Act of 1986 (SARA)****Section 311/312 hazard categories**

| | |
|--|-----|
| Flammable (Gases, Aerosols, Liquids, or Solids) | No |
| Gas under pressure | No |
| Explosive | No |
| Self-heating | No |
| Pyrophoric (Liquid or Solid) | No |
| Pyrophoric Gas | No |
| Corrosive to metal | No |
| Oxidizer (Liquid, Solid or Gas) | No |
| Organic Peroxide | No |
| Self-reactive | No |
| In contact with water emits flammable gas | No |
| Combustible Dust | No |
| Carcinogenicity | No |
| Acute toxicity (any route of exposure) | Yes |
| Reproductive toxicity | No |
| Skin Corrosion or Irritation | No |
| Respiratory or Skin Sensitization | Yes |
| Serious eye damage or eye irritation | Yes |
| Specific target organ toxicity (single or repeated exposure) | Yes |
| Aspiration Hazard | No |
| Germ cell mutagenicity | Yes |
| Simple Asphyxiant | No |
| Hazards Not Otherwise Classified | No |

US. EPA CERCLA Hazardous Substances and Reportable Quantities (40 CFR 302.4)

None Reported

US. EPCRA Section 313 Toxic Release Inventory (TRI) (40 CFR 372)

None Reported

Additional Federal Regulatory Information

Not Applicable

State Regulations**US. California Proposition 65**

None Reported

Additional State Regulatory Information

Not Applicable

National Inventory Status

| National Inventory | Status |
|--|--|
| Australia - AIIIC / Australia Non-Industrial Use | Yes |
| Canada - DSL | Yes |
| Canada - NDSL | No (trimethylolpropane tris(2-methyl-1-aziridine)propionate; dimethylethanolamine) |
| China - IECSC | Yes |
| Europe - EINEC / ELINCS / NLP | Yes |
| Japan - ENCS | No (trimethylolpropane tris(2-methyl-1-aziridine)propionate) |
| Korea - KECI | Yes |
| New Zealand - NZIoC | Yes |

Continued...

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| National Inventory | Status |
|---|---|
| Philippines - PICCS | No (trimethylolpropane tris(2-methyl-1-aziridine)propionate) |
| USA - TSCA | All chemical substances in this product have been designated as TSCA Inventory 'Active' |
| Taiwan - TCSI | Yes |
| Mexico - INSQ | No (trimethylolpropane tris(2-methyl-1-aziridine)propionate) |
| Vietnam - NCI | Yes |
| Russia - FBEPH | Yes |
| UAE - Control List (Banned/Restricted Substances) | No (trimethylolpropane tris(2-methyl-1-aziridine)propionate; dimethylethanolamine) |
| 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 | 02/05/2026 |
| Initial Date | 12/21/2016 |

CONTACT POINT

PLEASE NOTE THAT TITANIUM DIOXIDE IS NOT PRESENT IN CLEAR OR NEUTRAL BASES

SDS Version Summary

| Version | Date of Update | Sections Updated |
|---------|----------------|---|
| 2.7 | 02/05/2026 | Hazards identification - Classification, Composition / information on ingredients - Ingredients, Identification of the substance / mixture and of the company / undertaking - Use, Name |

Other information

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.

Definitions and abbreviations

- ▶ PC - TWA: Permissible Concentration-Time Weighted Average
- ▶ PC - STEL: Permissible Concentration-Short Term Exposure Limit
- ▶ IARC: International Agency for Research on Cancer
- ▶ ACGIH: American Conference of Governmental Industrial Hygienists
- ▶ STEL: Short Term Exposure Limit
- ▶ TEEL: Temporary Emergency Exposure Limit,
- ▶ IDLH: Immediately Dangerous to Life or Health Concentrations
- ▶ ES: Exposure Standard
- ▶ OSF: Odour Safety Factor
- ▶ NOAEL: No Observed Adverse Effect Level
- ▶ LOAEL: Lowest Observed Adverse Effect Level
- ▶ TLV: Threshold Limit Value
- ▶ LOD: Limit Of Detection
- ▶ OTV: Odour Threshold Value
- ▶ BCF: BioConcentration Factors
- ▶ BEI: Biological Exposure Index
- ▶ DNEL: Derived No-Effect Level
- ▶ PNEC: Predicted no-effect concentration
- ▶ MARPOL: International Convention for the Prevention of Pollution from Ships
- ▶ IMSBC: International Maritime Solid Bulk Cargoes Code
- ▶ IGC: International Gas Carrier Code
- ▶ IBC: International Bulk Chemical Code

- ▶ AIIC: Australian Inventory of Industrial Chemicals
- ▶ DSL: Domestic Substances List
- ▶ NDSL: Non-Domestic Substances List
- ▶ IECSC: Inventory of Existing Chemical Substance in China
- ▶ EINECS: European Inventory of Existing Commercial chemical Substances
- ▶ ELINCS: European List of Notified Chemical Substances
- ▶ NLP: No-Longer Polymers
- ▶ ENCS: Existing and New Chemical Substances Inventory
- ▶ KECI: Korea Existing Chemicals Inventory
- ▶ NZIoC: New Zealand Inventory of Chemicals
- ▶ PICCS: Philippine Inventory of Chemicals and Chemical Substances
- ▶ TSCA: Toxic Substances Control Act
- ▶ TCSI: Taiwan Chemical Substance Inventory
- ▶ INSQ: Inventario Nacional de Sustancias Químicas
- ▶ NCI: National Chemical Inventory
- ▶ FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

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