



Proformax Performance Catalyst - P0001/P0008

ICP Building Solutions Group

Version No: 3.5

Safety Data Sheet according to OSHA HazCom Standard (2012) requirements

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S.GHS.USA.EN

SECTION 1 Identification

Product Identifier

Product name	Proformax Performance Catalyst - P0001/P0008
Synonyms	Not Available
Other means of identification	Not Available

Recommended use of the chemical and restrictions on use

Relevant identified uses	Laboratory chemicals, Synthesis of substances
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Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

Registered company name	ICP Building Solutions Group
Address	150 Dascomb Road Andover MA United States
Telephone	978-623-9980
Fax	Not Available
Website	www.icpgroup.com
Email	Not Available

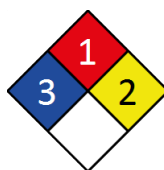
Emergency phone number

Association / Organisation	CHEMTEL
Emergency telephone numbers	800-255-3924
Other emergency telephone numbers	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 White = Special (Oxidizer or water reactive substances)

Classification	Specific target organ toxicity - repeated exposure Category 2, Serious Eye Damage Category 1, Acute Toxicity (Oral) Category 4, Germ cell mutagenicity Category 2, Skin Sensitizer Category 1B
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Label elements

Hazard pictogram(s)	
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Signal word	Danger
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Hazard statement(s)

H373	May cause damage to organs through prolonged or repeated exposure.
H318	Causes serious eye damage.
H302	Harmful if swallowed.
H341	Suspected of causing genetic defects.

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H317	May cause an allergic skin reaction.
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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.

Precautionary statement(s) Prevention

P202	Do not handle until all safety precautions have been read and understood.
P264	Wash thoroughly after handling.
P280	Wear protective gloves/protective clothing/face protection/eye protection.

Precautionary statement(s) Response

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.
P314	Get medical attention/advice if you feel unwell.

Precautionary statement(s) Storage

P405	Store locked up.
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Precautionary statement(s) Disposal

P501	Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation.
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SECTION 3 Composition / information on ingredients**Substances**

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
64265-57-2	>99	trimethylolpropane tris(2-methyl-1-aziridine)propionate

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.
Inhalation	<ul style="list-style-type: none"> ▶ If fumes, aerosols or combustion products are inhaled remove from contaminated area. ▶ Other measures are usually unnecessary.
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

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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
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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. Combustion products include: <ul style="list-style-type: none"> , carbon dioxide (CO₂) , nitrogen oxides (NO_x) , other pyrolysis products typical of burning organic material. May emit poisonous fumes. May emit corrosive fumes.

SECTION 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

See section 8

Environmental precautions

See section 12

Methods and material for containment and cleaning up

Minor Spills	<ul style="list-style-type: none"> ▶ Remove all ignition sources. ▶ Clean up all spills immediately.
Major Spills	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 all personal contact, including inhalation. ▶ Wear protective clothing when risk of exposure occurs. ▶ DO NOT allow clothing wet with material to stay in contact with skin
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Other information	<p>-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.</p> <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.
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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) ▶ 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.

SECTION 8 Exposure controls / personal protection**Control parameters****Occupational Exposure Limits (OEL)****INGREDIENT DATA**

Not Available

Emergency Limits

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
Proformax Performance Catalyst - P0001/P0008	Not Available	Not Available	Not Available	Not Available


Ingredient	Original IDLH	Revised IDLH
trimethylolpropane tris(2-methyl-1-aziridine)propionate	Not Available	Not Available

Occupational Exposure Banding

Ingredient	Occupational Exposure Band Rating	Occupational Exposure Band Limit
trimethylolpropane tris(2-methyl-1-aziridine)propionate	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.*

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.		
Personal protection			
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>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. General warning: Do NOT use latex gloves! Use only recommended gloves - using the wrong gloves may increase the risk:</p> <table border="1" style="width: 100%;"> <tr> <td style="width: 50%;">Exposure condition Short time use; (few minutes less than 0.5 hour) Little physical stress</td> <td style="width: 50%;">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> </table>	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
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	<p>Exposure condition Medium time use; less than 4 hours Physical stress (opening drums, using tools, etc.)</p>	<p>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</p>
	<p>Exposure condition Long time Cleaning operations</p>	<p>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.</p>
	<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 ‣ Neoprene rubber gloves</p>	
Body protection	See Other protection below	
Other protection	<ul style="list-style-type: none"> ‣ Overalls. ‣ P.V.C apron. 	

Respiratory protection

Type A Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

- 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	Moisture sensitive. Family of products which vary in their physical properties as a result of variations in production. Data presented here is for typical family member.		
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)	Not Available
pH (as supplied)	Not Available	Decomposition temperature	Not Available
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	Not Available
Initial boiling point and boiling range (°C)	Not Available	Molecular weight (g/mol)	Not Available
Flash point (°C)	200.5	Taste	Not Available
Evaporation rate	Not Available	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	Miscible	pH as a solution (1%)	Not Available
Vapour density (Air = 1)	Not Available	VOC g/L	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

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SECTION 11 Toxicological information

Information on toxicological effects

Inhaled	The material is not thought to produce either adverse health effects or irritation of the respiratory tract following inhalation (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 and that suitable control measures be used in an occupational setting. No report of respiratory illness in humans as a result of exposure to multifunctional acrylates has been found. Inhalation hazard is increased at higher temperatures.	
Ingestion	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. 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.	
Skin Contact	All multifunctional acrylates (MFA) produce skin disorders and sensitise the skin and inflammation. Vapours generated by the heat of milling may occur in sufficient concentration to produce inflammation. Open cuts, abraded or irritated skin should not be exposed to this material Entry into the blood-stream, through, for example, cuts, abrasions 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. The material may cause severe inflammation of the skin either following direct contact or after a delay of some time. Repeated exposure can cause contact dermatitis which is characterised by redness, swelling and blistering.	
Eye	If applied to the eyes, this material causes severe eye damage.	
Chronic	Repeated or long-term occupational exposure is likely to produce cumulative health effects involving organs or biochemical systems. Strong evidence exists that this substance may cause irreversible mutations (though not lethal) even following a single exposure. This material contains a polymer with a reactive group considered to be of high concern. Ethyleneimines can cause cancer and damage the male reproductive system. Substances containing aziridinyl moieties may cause severe genetic damage. These are found in several drugs used for cancer chemotherapy. Alkylating agents damage the stem cell (precursor to blood cells). Loss of the stem cell may result in loss of all types of blood cells, with a latency period corresponding to the lifetime of the individual blood cells. There has been concern that this material can cause cancer or mutations, but there is not enough data to make an assessment.	
Proformax Performance Catalyst - P0001/P0008	TOXICITY	IRRITATION
	Not Available	Not Available
trimethylolpropane tris(2-methyl-1-aziridine)propionate	TOXICITY	IRRITATION
	Oral (rat) LD50: 3038 mg/kg ^[2]	Eye (rabbit): SEVERE corrosive
		Skin (rabbit): SEVERE abraded skin
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	

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, 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,[14] the disruption of the cell membrane leading to necrotic cell death (immediate) and disruption of the mitochondrial membrane after internalisation leading to apoptosis (delayed). 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>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 irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.</p> <p>The material may cause severe 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. Repeated exposures may produce severe ulceration.</p>
Proformax Performance Catalyst - P0001/P0008 & TRIMETHYLOLPROPANE TRIS(2-METHYL-1-AZIRIDINE)PROPIONATE	<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>UV (ultraviolet) / EB (electron beam) acrylates are generally of low toxicity. UV/EB acrylates are divided into two groups the "stenomeric" and "eurymeric" acrylates.</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 have been cautious attempts to create classifications in the absence of contrary evidence. For example Monalkyl or monoarylestere of acrylic acids should be classified as R36/37/38 and R51/53</p>

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	Monoalkyl or monoaryl esters of methacrylic acid should be classified as R36/37/38		
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

SECTION 12 Ecological information

Toxicity

Proformax Performance Catalyst - P0001/P0008	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available
trimethylolpropane tris(2-methyl-1-aziridine)propionate	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 3. EPIWIN Suite V3.12 (QSAR) - Aquatic Toxicity Data (Estimated) 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				

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:

Environmental Fate: Cationic substances in the environment instantaneously form complexes with naturally occurring negatively charged constituents in sewage, soils, sediments, and with dissolved humic substances in surface waters. This complexation behaviour results in reduced bioavailability in actual environmental conditions.

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
	No Data available for all ingredients	No Data available for all ingredients

Bioaccumulative potential

Ingredient	Bioaccumulation
	No Data available for all ingredients

Mobility in soil

Ingredient	Mobility
	No Data available for all ingredients

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. Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area.
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- ▶ **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
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Land transport (DOT): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

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

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

US TSCA Chemical Substance Inventory - Interim List of Active Substances

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

State Regulations**US. California Proposition 65**

None Reported

National Inventory Status

National Inventory	Status
Australia - AIIIC	Yes
Australia - Non-Industrial Use	No (trimethylolpropane tris(2-methyl-1-aziridine)propionate)
Canada - DSL	Yes
Canada - NDLS	No (trimethylolpropane tris(2-methyl-1-aziridine)propionate)
China - IECSC	Yes

Continued...

Proformax Performance Catalyst - P0001/P0008

National Inventory	Status
Europe - EINEC / ELINCS / NLP	Yes
Japan - ENCS	No (trimethylolpropane tris(2-methyl-1-aziridine)propionate)
Korea - KECI	Yes
New Zealand - NZIoC	Yes
Philippines - PICCS	No (trimethylolpropane tris(2-methyl-1-aziridine)propionate)
USA - TSCA	Yes
Taiwan - TCSI	Yes
Mexico - INSQ	No (trimethylolpropane tris(2-methyl-1-aziridine)propionate)
Vietnam - NCI	Yes
Russia - ARIPS	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 and are not exempt from listing(see specific ingredients in brackets)

SECTION 16 Other information

Revision Date	10/07/2020
Initial Date	09/25/2020

CONTACT POINT

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

SDS Version Summary

Version	Issue Date	Sections Updated
2.5.1.1.1	10/07/2020	Ingredients, Name

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.

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
 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

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