

# Poly 250 'B' VOC **ICP Building Solutions Group**

Version No: 3.3.10.9 Safety Data Sheet according to OSHA HazCom Standard (2012) requirements Issue Date: 08/19/2021 Print Date: 08/19/2021 S.GHS.USA.EN

#### **SECTION 1 Identification**

#### **Product Identifier**

Product name	Poly 250 'B' VOC	
Synonyms	Not Available	
Proper shipping name	name Resin Solution, flammable (contains 4-chlorobenzotrifluoride)	
Other means of identification	Not Available	

#### Recommended use of the chemical and restrictions on use

Relevant identified uses Special flooring curative

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

Registered company name	ICP Building Solutions Group	
Address	4565 W Watkins Street Phoenix AZ 85043 United States	
Telephone	623-435-2277	
Fax	Not Available	
Website	www.icpgroup.com	
Email	sds@icpgroup.com	

# **Emergency phone number**

	Association / Organisation	ChemTel
	Emergency telephone numbers	1-800-255-3924
	Other emergency telephone numbers	1-813-248-0585

# SECTION 2 Hazard(s) identification

## Classification of the substance or mixture



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

Flammable Liquids Category 3, Serious Eye Damage/Eye Irritation Category 2A, Sensitisation (Respiratory) Category 1, Hazardous to the Aquatic Environment Long-Term Hazard Category 2, Skin Corrosion/Irritation Category 2, Reproductive Toxicity Category 1B, Sensitisation (Skin) Category 1, Carcinogenicity Category 2

## Label elements

Hazard pictogram(s)







Signal word

Danger

# Hazard statement(s)

Tidadi di Statement(3)	
H226	Flammable liquid and vapour.
H319	Causes serious eye irritation.

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H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H411	Toxic to aquatic life with long lasting effects.
H315	Causes skin irritation.
H360	May damage fertility or the unborn child.
H317	May cause an allergic skin reaction.
H351	Suspected of causing cancer.

## Hazard(s) not otherwise classified

Not Applicable

## Precautionary statement(s) Prevention

P202	Do not handle until all safety precautions have been read and understood.	
P210	Keep away from heat/sparks/open flames/hot surfaces No smoking.	
P261	Avoid breathing dust/fumes/gas/mist/vapors/spray	
P264	Wash thoroughly after handling	
P272	Contaminated work clothing should not be allowed out of the workplace.	
P273	Avoid release to the environment	
P280	Wear protective gloves/protective clothing/eye protection/face protection	

# Precautionary statement(s) Response

P303+P361+P353	IF ON SKIN (or hair) Take off immediately all contaminated clothing. Rinse SKIN with water (or shower)	
P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.		
P305+P351+P338	P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.	
P337+P313 IF Eye irritation persists: Get medical advice/attention		
P308+P313   IF exposed or concerned: Get medical advice/attention.		

# Precautionary statement(s) Storage

P403+P235	Store in a well-ventilated place. Keep cool.	
P405	Store locked up.	

# Precautionary statement(s) Disposal

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

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

# Substances

See section below for composition of Mixtures

## Mixtures

CAS No	%[weight]	Name
4083-64-1	.1-1	p-toluenesulfonyl isocyanate
98-56-6	60-80	4-chlorobenzotrifluoride
2530-83-8	1-5	gamma-glycidoxypropyltrimethoxysilane
28182-81-2	10-30	hexamethylene diisocyanate polymer

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

► Transport to hospital, or doctor.

# **SECTION 4 First-aid measures**

Description of first aid measures		
Eye Contact	If this product comes in contact with the eyes:      Wash out immediately with fresh 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.      Seek medical attention without delay; if pain persists or recurs seek medical attention.      Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.	
Skin Contact	If skin contact occurs:  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> <li>If fumes or combustion products are inhaled remove from contaminated area.</li> <li>Lay patient down. Keep warm and rested.</li> <li>Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.</li> <li>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.</li> </ul>	

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Following uptake by inhalation, move person to an area free from risk of further exposure. Oxygen or artificial respiration sho as needed. Asthmatic-type symptoms may develop and may be immediate or delayed up to several hours. Treatment is essentially a physician should be consulted.	
Ingestion	<ul> <li>Immediately give a glass of water.</li> <li>First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.</li> </ul>

#### Most important symptoms and effects, both acute and delayed

See Section 11

#### Indication of any immediate medical attention and special treatment needed

Treat symptomatically

For sub-chronic and chronic exposures to isocyanates:

- This material may be a potent pulmonary sensitiser which causes bronchospasm even in patients without prior airway hyperreactivity.
- Clinical symptoms of exposure involve mucosal irritation of respiratory and gastrointestinal tracts.
- Conjunctival irritation, skin inflammation (erythema, pain vesiculation) and gastrointestinal disturbances occur soon after exposure.
- Pulmonary symptoms include cough, burning, substernal pain and dyspnoea.
- Some cross-sensitivity occurs between different isocyanates
- Noncardiogenic pulmonary oedema and bronchospasm are the most serious consequences of exposure. Markedly symptomatic patients should receive oxygen, ventilatory support and an intravenous line
- ▶ Treatment for asthma includes inhaled sympathomimetics (epinephrine [adrenalin], terbutaline) and steroids.
- Activated charcoal (1 g/kg) and a cathartic (sorbitol, magnesium citrate) may be useful for ingestion.
- Mydriatics, systemic analgesics and topical antibiotics (Sulamyd) may be used for corneal abrasions.
- ▶ There is no effective therapy for sensitised workers.

[Ellenhorn and Barceloux; Medical Toxicology]

NOTE: Isocyanates cause airway restriction in naive individuals with the degree of response dependant on the concentration and duration of exposure. They induce smooth muscle contraction which leads to bronchoconstrictive episodes. Acute changes in lung function, such as decreased FEV1, may not represent sensitivity. [Karol & Jin, Frontiers in Molecular Toxicology, pp 56-61, 1992]

Personnel who work with isocyanates, isocyanate prepolymers or polyisocyanates should have a pre-placement medical examination and periodic examinations thereafter, including a pulmonary function test. Anyone with a medical history of chronic respiratory disease, asthmatic or bronchial attacks, indications of allergic responses, recurrent eczema or sensitisation conditions of the skin should not handle or work with isocyanates. Anyone who develops chronic respiratory distress when working with isocyanates should be removed from exposure and examined by a physician. Further exposure must be avoided if a sensitivity to isocyanates or polyisocyanates has developed.

#### **SECTION 5 Fire-fighting measures**

#### **Extinguishing media**

- Small quantities of water in contact with hot liquid may react violently with generation of a large volume of rapidly expanding hot sticky semi-solid foam.
- Presents additional hazard when fire fighting in a confined space.
- Cooling with flooding quantities of water reduces this risk.
- Dry chemical powder.
- BCF (where regulations permit)

#### 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			

opediai protective equipment	and productions for the righters
Fire Fighting	<ul> <li>Alert Fire Brigade and tell them location and nature of hazard.</li> <li>May be violently or explosively reactive.</li> <li>Wear breathing apparatus plus protective gloves.</li> </ul>
Fire/Explosion Hazard	<ul> <li>▶ Liquid and vapour are flammable.</li> <li>▶ Moderate fire hazard when exposed to heat or flame.</li> <li>▶ Vapour forms an explosive mixture with air.</li> <li>Combustion products include:</li> <li>carbon dioxide (CO2)</li> <li>carbon monoxide (CO)</li> <li>isocyanates</li> <li>hydrogen cyanide</li> <li>and minor amounts of</li> <li>hydrogen chloride</li> <li>phosgene</li> <li>nitrogen oxides (NOx)</li> <li>hydrogen fluoride</li> <li>other pyrolysis products typical of burning organic material.</li> <li>When heated at high temperatures many isocyanates decompose rapidly generating a vapour which pressurises containers, possibly to the point of rupture. Release of toxic and/or flammable isocyanate vapours may then occur</li> <li>▶ Burns with acrid black smoke.</li> </ul>

#### **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

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Minor Spills	<ul> <li>Remove all ignition sources.</li> <li>Clean up all spills immediately.</li> <li>Avoid breathing vapours and contact with skin and eyes.</li> </ul>
Major Spills	<ul> <li>Liquid Isocyanates and high isocyanate vapour concentrations will penetrate seals on self contained breathing apparatus - SCBA should be used inside encapsulating suit where this exposure may occur.</li> <li>For isocyanate spills of less than 40 litres (2 m2):</li> <li>Evacuate area from everybody not dealing with the emergency, keep them upwind and prevent further access, remove ignition sources and, if inside building, ventilate area as well as possible.</li> <li>Notify supervision and others as necessary.</li> <li>Put on personal protective equipment (suitable respiratory protection, face and eye protection, protective suit, gloves and impermeable boots).</li> <li>Avoid contamination with water, alkalies and detergent solutions.</li> <li>Material reacts with water and generates gas, pressurises containers with even drum rupture resulting.</li> <li>DO NOT reseal container if contamination is suspected.</li> <li>Clear area of personnel and move upwind.</li> <li>Alert Fire Brigade and tell them location and nature of hazard.</li> <li>May be violently or explosively reactive.</li> </ul>

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

## **SECTION 7 Handling and storage**

## Precautions for safe handling ▶ Containers, even those that have been emptied, may contain explosive vapours. Do NOT cut, drill, grind, weld or perform similar operations on or near containers. Avoid all personal contact, including inhalation. Safe handling Wear protective clothing when risk of overexposure occurs. Use in a well-ventilated area. ▶ DO NOT allow clothing wet with material to stay in contact with skin Consider storage under inert gas. ▶ Store in original containers in approved flammable liquid storage area. ▶ Store away from incompatible materials in a cool, dry, well-ventilated area. Other information ▶ DO NOT store in pits, depressions, basements or areas where vapours may be trapped. for commercial quantities of isocyanates: Isocyanates should be stored in adequately bunded areas. Nothing else should be kept within the same bunding. Pre-polymers need not be

Suitable container	<ul> <li>Packing as supplied by manufacturer.</li> <li>Plastic containers may only be used if approved for flammable liquid.</li> <li>Check that containers are clearly labelled and free from leaks.</li> <li>For low viscosity materials (i): Drums and jerry cans must be of the non-removable head type. (ii): Where a can is to be used as an inner package, the can must have a screwed enclosure.</li> <li>For materials with a viscosity of at least 2680 cSt.</li> </ul>
Storage incompatibility	<ul> <li>Contact with water liberates highly flammable gases</li> <li>Epoxides:</li> <li>are highly reactive with acids, bases, and oxidising and reducing agents.</li> <li>react, possibly violently, with anhydrous metal chlorides, ammonia, amines and group 1 metals.</li> <li>may polymerise in the presence of peroxides or heat - polymerisation may be violent</li> <li>may react, possibly violently, with water in the presence of acids and other catalysts.</li> <li>Avoid strong bases.</li> <li>Avoid reaction with water, alcohols and detergent solutions. Isocyanates are electrophiles, and as such they are reactive toward a variety of nucleophiles including alcohols, amines, and even water. Upon treatment with an alcohol, an isocyanate forms a urethane linkage.</li> <li>A range of exothermic decomposition energies for isocyanates is given as 20-30 kJ/mol.</li> <li>The relationship between energy of decomposition and processing hazards has been the subject of discussion; it is suggested that values of energy released per unit of mass, rather than on a molar basis (J/g) be used in the assessment.</li> <li>For example, in 'open vessel processes' (with man-hole size openings, in an industrial setting), substances with exothermic decomposition energies below 500 J/g are unlikely to present a danger, whilst those in 'closed vessel processes' (opening is a safety valve or bursting disk present some danger where the decomposition energy exceeds 150 J/g.</li> </ul>

## **Control parameters**

Occupational Exposure Limits (OEL)

## INGREDIENT DATA

Not Available

## **Emergency Limits**

1 Emergency Emilia				
Ingredient	TEEL-1	TEEL-2	TEEL-3	
gamma- glycidoxypropyltrimethoxysilane	9.3 mg/m3	100 mg/m3	230 mg/m3	
hexamethylene diisocyanate polymer	7.8 mg/m3	86 mg/m3	510 mg/m3	

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Ingredient	Original IDLH	Revised IDLH
p-toluenesulfonyl isocyanate	Not Available	Not Available
4-chlorobenzotrifluoride	Not Available	Not Available
gamma- glycidoxypropyltrimethoxysilane	Not Available	Not Available
hexamethylene diisocyanate polymer	Not Available	Not Available

#### Occupational Exposure Banding

Ingredient	Occupational Exposure Band Rating	Occupational Exposure Band Limit	
p-toluenesulfonyl isocyanate	E	≤ 0.1 ppm	
4-chlorobenzotrifluoride	E	≤ 0.1 ppm	
gamma- glycidoxypropyltrimethoxysilane	E	≤ 0.1 ppm	
hexamethylene diisocyanate polymer	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		

#### **Exposure controls**

Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection. The basic types of engineering controls are:

Process controls which involve changing the way a job activity or process is done to reduce the risk.

#### Appropriate engineering

controls

All processes in which isocyanates are used should be enclosed wherever possible.

range of exposure concentrations that are expected to protect worker health.

Total enclosure, accompanied by good general ventilation, should be used to keep atmospheric concentrations below the relevant exposure standards.

If total enclosure of the process is not feasible, local exhaust ventilation may be necessary.

Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection. The basic types of engineering controls are:

Process controls which involve changing the way a job activity or process is done to reduce the risk.

#### Personal protection











# Eye and face protection

- Safety glasses with side shields.
- Chemical goggles.
- Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants

## Skin protection

See Hand protection below

## NOTE:

- The material may produce skin sensitisation in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact.
- Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed.

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.

#### Hands/feet protection

The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice.

- ► Do NOT wear natural rubber (latex gloves).
- Isocyanate resistant materials include Teflon, Viton, nitrile rubber and some PVA gloves.
- Protective gloves and overalls should be worn as specified in the appropriate national standard.
- Contaminated garments should be removed promptly and should not be re-used until they have been decontaminated.
- DO NOT use skin cream unless necessary and then use only minimum amount
- ▶ Isocyanate vapour may be absorbed into skin cream and this increases hazard.

#### **Body protection**

#### See Other protection below

- Employees working with confirmed human carcinogens should be provided with, and be required to wear, clean, full body protective clothing (smocks, coveralls, or long-sleeved shirt and pants), shoe covers and gloves prior to entering the regulated area. [AS/NZS ISO 6529:2006 or national equivalent]
- Employees engaged in handling operations involving carcinogens should be provided with, and required to wear and use half-face filter-type respirators with filters for dusts, mists and fumes, or air purifying canisters or cartridges. A respirator affording higher levels of protection may be substituted
- Prior to each exit from an area containing confirmed human carcinogens, employees should be required to remove and leave protective clothing and equipment at the point of exit and at the last exit of the day, to place used clothing and equipment in impervious containers at the point of exit for purposes of decontamination or disposal. The contents of such impervious containers must be identified with suitable labels. For maintenance and decontamination activities, authorized employees entering the area should be provided with and required to wear clean, impervious garments, including gloves, boots and continuous-air supplied hood.

All employees working with isocyanates must be informed of the hazards from exposure to the contaminant and the precautions necessary to prevent damage to their health. They should be made aware of the need to carry out their work so that as little contamination as possible is produced, and of the importance of the proper use of all safeguards against exposure to themselves and their fellow workers. Adequate training, both in the proper execution of the task and in the use of all associated engineering controls, as well as of any personal protective equipment, is essential.

## Other protection

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- Overalls
- PVC Apron.
- ▶ PVC protective suit may be required if exposure severe.
- Some plastic personal protective equipment (PPE) (e.g. gloves, aprons, overshoes) are not recommended as they may produce static electricity.
- For large scale or continuous use wear tight-weave non-static clothing (no metallic fasteners, cuffs or pockets).
- Non sparking safety or conductive footwear should be considered.

#### 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

For spraying or operations which might generate aerosols:

Full face respirator with supplied air.

- In certain circumstances, personal protection of the individual employee is necessary. Personal protective devices should be regarded as being supplementary to substitution and engineering control and should not be used in preference to them as they do nothing to eliminate the hazard.
- However, in some situations, minimising exposure to isocyanates by enclosure and ventilation is not possible, and occupational exposure standards may be exceeded, particularly during on-site mixing of paints, spray-painting, foaming and maintenance of machine and ventilation systems. In these situations, air-line respirators or self-contained breathing apparatus complying with the appropriate nationals standard must be used.
- Organic vapour respirators with particulate pre- filters and powered, air-purifying respirators are NOT suitable.
- Personal protective equipment must be appropriately selected, individually fitted and workers trained in their correct use and maintenance. Personal protective equipment must be regularly checked and maintained to ensure that the worker is being protected.
- Air- line respirators or self-contained breathing apparatus complying with the appropriate national standard should be used during the clean-up of spills and the repair or clean-up of contaminated equipment and similar situations which cause emergency exposures to hazardous atmospheric concentrations of isocyanate.

## **SECTION 9 Physical and chemical properties**

#### Information on basic physical and chemical properties **Appearance** Moisture sensitive Physical state Liquid Relative density (Water = 1) Not Available Partition coefficient n-octanol Odour Not Available Not Available / water 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)	Not Available	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Not Available	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

pH as a solution (%)

VOC g/L

Not Available

Not Available

## **SECTION 10 Stability and reactivity**

Vapour density (Air = 1)

Solubility in water

Immiscible

Not Available

Reactivity	See section 7
Chemical stability	<ul> <li>Unstable in the presence of incompatible materials.</li> <li>Product is considered stable.</li> <li>Hazardous polymerisation will not occur.</li> </ul>
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7

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Hazardous decomposition products

glycidoxypropyltrimethoxysilane

Inhalation(Rat) LC50; >5.3 mg/l4h<sup>[1]</sup> Oral(Rat) LD50; >5350 mg/kg $^{[1]}$ 

See section 5

SECTION 11 Toxicological in	nformation			
Information on toxicological eff	fects			
Inhaled	Inhalation of vapours or aerosols (mists, fumes), generated by the material during the course of normal handling, may be harmful. 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 hazard is increased at higher temperatures. Inhalation of quantities of liquid mist may be extremely hazardous, even lethal due to spasm, extreme irritation of larynx and bronchi, chemical pneumonitis and pulmonary oedema.  The vapour/mist may be highly irritating to the upper respiratory tract and lungs; the response may be severe enough to produce bronchitis and pulmonary oedema. Possible neurological symptoms arising from isocyanate exposure include headache, insomnia, euphoria, ataxia, anxiety neurosis, depression and paranoia. Gastrointestinal disturbances are characterised by nausea and vomiting. Inhalation of high concentrations of gas/vapour causes lung irritation with coughing and nausea, central nervous depression with headache and dizziness, slowing of reflexes, fatigue and inco-ordination.			
Ingestion	The material is not thought to produce adverse health effects following ingestion (as classified by EC Directives using animal models). Nevertheless, adverse systemic effects have been produced following exposure of animals by at least one other route and good hygiene practice requires that exposure be kept to a minimum.  Exposure may cause salivation, and increases in blood cholesterol and triglycerides. There may also be increase in weight of the liver and kidney and deposition of fat in the adrenal gland.			
Skin Contact	The material may accentuate any pre-existing dermatitis condition  Skin contact with the material may damage the health of the individual; systemic effects may result following absorption.  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 moderate 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	This material may produce eye irritation in some persons and produce eye damage 24 hours or more after instillation. Moderate inflammation may be expected with redness; conjunctivitis may occur with prolonged exposure.			
Chronic	Inhaling this product is more likely to cause a sensitisation reaction in some persons compared to the general population.  Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population.  There is ample evidence that this material can be regarded as being able to cause cancer in humans based on experiments and other information.  Ample evidence exists, from results in experimentation, that developmental disorders are directly caused by human exposure to the material. This product contains a polymer with a functional group considered to be of high concern. Isothiocyanates may cause hypersensitivity of the skin and airways.  The epoxide group is an alkylating agent and thus destroys nucleotides within the cell. This may cause cancer.  Persons with a history of asthma or other respiratory problems or are known to be sensitised, should not be engaged in any work involving the handling of isocyanates.  The chemistry of reaction of isocyanates, as evidenced by MDI, in biological milieu is such that in the event of a true exposure of small MDI doses to the mouth, reactions will commence at once with biological macromolecules in the buccal region and will continue along the digestive tract prior to reaching the stomach. Reaction products will be a variety of polyureas and macromolecular conjugates with for example mucus, proteins and cell components.  Animal testing shows that polymeric MDI can damage the nasal cavities and lungs, causing inflammation.and increased cell growth.  4-chlorobenzotrifluoride (PCBTF) may have potential to cause cancer because of its structural similarities with two known cancer causing agents.			
Poly 250 'B' VOC	TOXICITY  Not Available	IRRITATION  Not Available		
p-toluenesulfonyl isocyanate	TOXICITY  dermal (rat) LD50: >2000 mg/kg <sup>[1]</sup> Inhalation(Rat) LC50; >320 ppm4h <sup>[2]</sup> Oral(Rat) LD50; 2234 mg/kg <sup>[2]</sup>		IRRITATION  Not Available	
4-chlorobenzotrifluoride	TOXICITY  Dermal (rabbit) LD50: >2 mg/kg <sup>[2]</sup> Inhalation(Rat) LC50; >32.03 mg/l4h <sup>[1]</sup> Oral(Rat) LD50; 5546 mg/kg <sup>[1]</sup>		IRRITATION  Not Available	
gamma-	TOXICITY  Dermal (rabbit) LD50: 4247.9 mg/kg <sup>[2]</sup>		IRRITATION  Not Available	

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hexamethylene diisocyanate polymer

TOXICITY	IRRITATION
Dermal (rabbit) LD50: >2000 mg/kg <sup>[1]</sup>	Skin (rabbit): 500 mg - moderate
Inhalation(Rat) LC50; 0.052-0.5 mg/L4h <sup>[1]</sup>	
Oral(Rat) LD50; >2000 mg/kg <sup>[1]</sup>	

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

P-TOLUENESULFONYL ISOCYANATE	For p-toluenesulfonyl isocyanate: The acute semi-lethal dose is 2600mg/kg by mouth. Because PTSI is rapidly broken down to PTSA and carbon dioxide, its repeated dose, reproductive, developmental and genetic toxicity are best described by PTSA.  For p-toluenesulfonamide (PTSA):  Animal testing shows that PTSA at high doses may cause changes in blood count and blood chemistry, with changes in the epithelium of the bladder and accelerated degeneration of the thymus. Sufficient doses may cause developmental effects, early delivery of foetuses or disorders in breast feeding. PTSA does not seem to cause mutations or genetic damage.
GAMMA- GLYCIDOXYPROPYLTRIMETHOXYSILANE	Low molecular weight alkoxysilane can cause irreversible lung damage when inhaled at low dose. It is not an obvious skin irritant. However, studies suggest with repeated occupational exposure, methoxysilane may cause damage to the eye and skin as well as cancer.  For gamma-glycidopropyltrimehoxysilane (GPTMS): GPTMS undergoes rapid hydrolysis and the observed toxicity is expected to be due primarily to methanol and silanetriols. GPTMS is mildly irritating to the skin and eyes and is not a known skin sensitiser in humans or in animals. GPTMS has been shown to cause chromosomal damage and gene mutations.
HEXAMETHYLENE DIISOCYANATE POLYMER	* Bayer SDS ** Ardex SDS No significant acute toxicological data identified in literature search.  The material may produce moderate eye irritation leading to inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.  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.
POIY 250 'B' VOC & P-TOLUENESULFONYL ISOCYANATE & HEXAMETHYLENE DIISOCYANATE POLYMER	Allergic reactions involving the respiratory tract are usually due to interactions between IgE antibodies and allergens and occur rapidly. Allergic potential of the allergen and period of exposure often determine the severity of symptoms. Some people may be genetically more prone than others, and exposure to other irritants may aggravate symptoms.  Attention should be paid to atopic diathesis, characterised by increased susceptibility to nasal inflammation, asthma and eczema. Exogenous allergic alveolitis is induced essentially by allergen specific immune-complexes of the IgG type; cell-mediated reactions (T lymphocytes) may be involved. Such allergy is of the delayed type with onset up to four hours following exposure. Isocyanate vapours are irritating to the airways and can cause their inflammation, with wheezing, gasping, severe distress, even loss of consciousness and fluid in the lungs. Nervous system symptoms that may occur include headache, sleep disturbance, euphoria, inco-ordination, anxiety, depression and paranoia.
Poly 250 'B' VOC & HEXAMETHYLENE DIISOCYANATE POLYMER	The following information refers to contact allergens as a group and may not be specific to this product.  Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type. Other allergic skin reactions, e.g. contact urticaria, involve antibody-mediated immune reactions.
Poly 250 'B' VOC & GAMMA- GLYCIDOXYPROPYLTRIMETHOXYSILANE	Oxiranes (including glycidyl ethers and alkyl oxides, and epoxides) share many common characteristics with respect to animal toxicology. One such oxirane is ethyloxirane; data presented here may be taken as representative.  For 1,2-butylene oxide (ethyloxirane): In animal testing, ethyloxirane increased the incidence of tumours of the airways in animals exposed via inhalation. However, tumours were not observed in mice chronically exposed via skin. Two structurally related substances, oxirane (ethylene oxide) and methyloxirane (propylene oxide), which are also direct-acting alkylating agents, have been classified as causing cancer.
Poly 250 'B' VOC & 4-CHLOROBENZOTRIFLUORIDE	Medium to long term exposure to chlorobenzotrifluoride may produce increase in weight of the liver, kidney, and thyroid gland at high doses. Only limited reproductive effects were noted, and no gene alteration effects. There was also no evidence of cancer-causing potential.
P-TOLUENESULFONYL ISOCYANATE & 4-CHLOROBENZOTRIFLUORIDE	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 compound. Main criteria for diagnosing RADS include the absence of previous airways disease in a non-atopic individual, with sudden onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant.

Acute Toxicity	×	Carcinogenicity	✓
Skin Irritation/Corrosion	✓	Reproductivity	✓
Serious Eye Damage/Irritation	✓	STOT - Single Exposure	×
Respiratory or Skin sensitisation	<b>✓</b>	STOT - Repeated Exposure	×
Mutagenicity	×	Aspiration Hazard	×

Legend:

X − Data either not available or does not fill the criteria for classification

Data available to make classification

# **SECTION 12 Ecological information**

## Toxicity

Poly 250 IPI VOC	Endpoint	Test Duration (hr)	Species	Value	Source
Poly 250 'B' VOC	Not Available	Not Available	Not Available	Not Available	Not Available

# p-toluenesulfonyl isocyanate

Endpoint	Test Duration (hr)	Species	Value	Source
NOEC(ECx)	72h	Algae or other aquatic plants	10mg/l	2
EC50	72h	Algae or other aquatic plants	25mg/l	2

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	LC50	96h	Fish	>45mg/l	2
	EC50	48h	Crustacea	>100mg/l	2
	Endpoint	Test Duration (hr)	Species	Value	Source
	NOEC(ECx)	504h	Crustacea	0.03mg/l	1
4-chlorobenzotrifluoride	EC50	72h	Algae or other aquatic plants	>0.41mg/l	2
	LC50	96h	Fish	3mg/l	2
	EC50	48h	Crustacea	3.68mg/l	1
	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50	72h	Algae or other aquatic plants	>420mg/l	2
gamma-	EC50	48h	Crustacea	473mg/l	2
lycidoxypropyltrimethoxysilane	LC50	96h	Fish	4.9mg/l	2
	NOEC(ECx)	96h	Fish	1.5mg/l	2
	EC50	96h	Algae or other aquatic plants	250mg/l	2
	Endpoint	Test Duration (hr)	Species	Value	Source
hexamethylene diisocyanate	EC50	72h	Algae or other aquatic plants	>1000mg/l	2
polymer	LC50	96h	Fish	8.9mg/l	2
	NOEC(ECx)	72h	Algae or other aquatic plants	50mg/l	2
Legend:	Extracted from 1. IUC	CLID Toxicity Data 2. Europe EC	HA Registered Substances - Ecotoxicological I.	nformation - Aquatic Toxid	citv 3. EPIWIN S
	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				

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

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

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

for polyisocyanates:

Polyisocyanates are not readily biodegradable. However, due to other elimination mechanisms (hydrolysis, adsorption), long retention times in water are not to be expected. The resulting polyurea is more or less inert and, due to its molecular size, not bioavailable.

For 4-chlorobenzotrifluoride (PCBTF):

Environmental Fate:

Soil absorption is anticipated. This substance is relatively biodegradable and is not expected to bioaccumulate or bioconcentrate (BCF 120). It is insoluble in water; and water volatility may be high.

Significant environmental findings are limited. Oxiranes (including glycidyl ethers and alkyl oxides, and epoxides) exhibit common characteristics with respect to environmental fate and ecotoxicology. One such oxirane is ethyloxirane and data presented here may be taken as representative.

For 1,2-Butylene oxide (Ethyloxirane):

log Kow values of 0.68 and 0.86. BAF and BCF : 1 to 17 L./kg.

Aquatic Fate - Ethyloxirane is highly soluble in water and has a very low soil-adsorption coefficient, which suggests that, if released to water, adsorption of ethyloxirane to sediment and suspended solids is not expected.

For Isocyanate Monomers:

Environmental Fate: Isocyanates, (di- and polyfunctional isocyanates), are commonly used to make various polymers, such as polyurethanes. Polyurethanes find significant application in the manufacture of rigid and flexible foams. They are also used in the production of adhesives, elastomers, and coatings.

DO NOT discharge into sewer or waterways.

## Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
p-toluenesulfonyl isocyanate	HIGH	HIGH
4-chlorobenzotrifluoride	HIGH	HIGH
gamma- glycidoxypropyltrimethoxysilane	нівн	HIGH
hexamethylene diisocyanate polymer	HIGH	HIGH

## Bioaccumulative potential

Ingredient	Bioaccumulation
p-toluenesulfonyl isocyanate	LOW (LogKOW = 2.3424)
4-chlorobenzotrifluoride	LOW (BCF = 202)
gamma- glycidoxypropyltrimethoxysilane	LOW (LogKOW = -0.9152)
hexamethylene diisocyanate polymer	LOW (LogKOW = 7.5795)

#### Mobility in soil

Ingredient	Mobility
p-toluenesulfonyl isocyanate	LOW (KOC = 882.1)

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Ingredient	Mobility
4-chlorobenzotrifluoride	LOW (KOC = 1912)
gamma- glycidoxypropyltrimethoxysilane	LOW (KOC = 90.22)
hexamethylene diisocyanate polymer	LOW (KOC = 18560000)

## **SECTION 13 Disposal considerations**

#### Waste treatment methods

Product / Packaging disposal

- ▶ Containers may still present a chemical hazard/ danger when empty.
- ► Return to supplier for reuse/ recycling if possible.

#### Otherwise:

If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill.

Legislation addressing waste disposal requirements may differ by country, state and/or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked.

• 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.
- In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.
- Recycle wherever possible.
- Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified.
- Dispose of by: burial in a land-fill specifically licensed to accept chemical and / or pharmaceutical wastes or Incineration in a licensed apparatus (after admixture with suitable combustible material).

## **SECTION 14 Transport information**

## **Labels Required**



## **Marine Pollutant**



## Land transport (DOT)

UN number	1866		
UN proper shipping name	Resin Solution, flammable (contains 4-chlorobenzotrifluoride)		
Transport hazard class(es)	Class 3 Subrisk Not Applicable		
Packing group	III		
Environmental hazard	Environmentally hazardous		
Special precautions for user	Hazard Label 3 Special provisions B1, B52, IB3, T2, TP1		

#### Air transport (ICAO-IATA / DGR)

· `	The state of the s			
UN number	1866			
UN proper shipping name	Resin solution flammable	e (contains 4-chlorobenzotrifluo	oride)	
Transport hazard class(es)	ICAO/IATA Class ICAO / IATA Subrisk ERG Code	3 Not Applicable 3L		
Packing group				
Environmental hazard	Environmentally hazardous			
Special precautions for user	Special provisions Cargo Only Packing Instructions Cargo Only Maximum Qty / Pack Passenger and Cargo Packing Instructions		A3 366 220 L 355	
	Passenger and Cargo Maximum Qty / Pack		60 L	

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Passenger and Cargo Limited Quantity Packing Instructions	Y344
Passenger and Cargo Limited Maximum Qty / Pack	10 L

#### Sea transport (IMDG-Code / GGVSee)

UN number	1866		
UN proper shipping name	RESIN SOLUTION flammable (contains 4-chlorobenzotrifluoride)		
Transport hazard class(es)	IMDG Class   3     IMDG Subrisk   Not Applicable		
Packing group	III		
Environmental hazard	Marine Pollutant		
Special precautions for user	EMS Number F-E , S-E Special provisions 223 955 Limited Quantities 5 L		

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

Not Applicable

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

Product name	Group
p-toluenesulfonyl isocyanate	Not Available
4-chlorobenzotrifluoride	Not Available
gamma- glycidoxypropyltrimethoxysilane	Not Available
hexamethylene diisocyanate polymer	Not Available

## Transport in bulk in accordance with the ICG Code

Product name	Ship Type
p-toluenesulfonyl isocyanate	Not Available
4-chlorobenzotrifluoride	Not Available
gamma- glycidoxypropyltrimethoxysilane	Not Available
hexamethylene diisocyanate polymer	Not Available

## **SECTION 15 Regulatory information**

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

#### p-toluenesulfonyl isocyanate 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

## 4-chlorobenzotrifluoride is found on the following regulatory lists

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Group 2B: Possibly carcinogenic to humans

US - California Proposition 65 - Carcinogens

US - California Safe Drinking Water and Toxic Enforcement Act of 1986 - Proposition 65 List

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

US TSCA Chemical Substance Inventory - Interim List of Active Substances US TSCA Section 4/12 (b) - Sunset Dates/Status

#### gamma-glycidoxypropyltrimethoxysilane is found on the following regulatory lists

US DOE Temporary Emergency Exposure Limits (TEELs)

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

US TSCA Chemical Substance Inventory - Interim List of Active Substances

## hexamethylene diisocyanate polymer is found on the following regulatory lists

US DOE Temporary Emergency Exposure Limits (TEELs)

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

US TSCA Chemical Substance Inventory - Interim List of Active Substances

US TSCA New Chemical Exposure Limits (NCEL)

#### **Federal Regulations**

# Superfund Amendments and Reauthorization Act of 1986 (SARA)

#### Section 311/312 hazard categories

Godini of Note Hazara Galogoria	
Flammable (Gases, Aerosols, Liquids, or Solids)	Yes
Gas under pressure	No
Explosive	No
Self-heating	No

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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	Yes
Acute toxicity (any route of exposure)	No
Reproductive toxicity	Yes
Skin Corrosion or Irritation	Yes
Respiratory or Skin Sensitization	Yes
Serious eye damage or eye irritation	Yes
Specific target organ toxicity (single or repeated exposure)	No
Aspiration Hazard	
Germ cell mutagenicity	
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

WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm

# US - California Proposition 65 - Carcinogens: Listed substance

4-chlorobenzotrifluoride

## **National Inventory Status**

National Inventory	Status
Australia - AIIC / Australia Non-Industrial Use	Yes
Canada - DSL	Yes
Canada - NDSL	No (p-toluenesulfonyl isocyanate; 4-chlorobenzotrifluoride; gamma-glycidoxypropyltrimethoxysilane)
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	Yes
Japan - ENCS	No (hexamethylene diisocyanate polymer)
Korea - KECI	Yes
New Zealand - NZIoC	Yes
Philippines - PICCS	Yes
USA - TSCA	Yes
Taiwan - TCSI	Yes
Mexico - INSQ	No (p-toluenesulfonyl isocyanate; 4-chlorobenzotrifluoride; gamma-glycidoxypropyltrimethoxysilane; hexamethylene diisocyanate polymer)
Vietnam - NCI	Yes
Russia - FBEPH	Yes
Legend:	Yes = All CAS declared ingredients are on the inventory No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.

# **SECTION 16 Other information**

Revision Date	08/19/2021	
Initial Date	08/17/2021	

#### CONTACT POINT

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

## **SDS Version Summary**

Version	Date of Update	Sections Updated
2.3.10.9	08/19/2021	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

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committee using available literature references.

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

#### **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

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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