



# Stat-Rez ESD Nano 275 B

## ICP Building Solutions Group

Version No: 6.6.12.10

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

Issue Date: 09/07/2021

Print Date: 09/07/2021

S.GHS.USA.EN

### SECTION 1 Identification

#### Product Identifier

Product name	Stat-Rez ESD Nano 275 B
Synonyms	Not Available
Proper shipping 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	ESD Coating
--------------------------	-------------

#### 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	<a href="http://www.icpgroup.com">www.icpgroup.com</a>
Email	sds@icpgroup.com

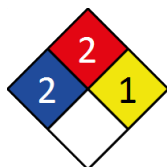
#### Emergency phone number

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

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	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, Specific Target Organ Toxicity - Single Exposure (Respiratory Tract Irritation) Category 3, Reproductive Toxicity Category 1B, Sensitisation (Skin) Category 1, Carcinogenicity Category 2
----------------	---

#### Label elements

Hazard pictogram(s)	
Signal word	<b>Danger</b>

#### Hazard statement(s)

H226	Flammable liquid and vapour.
H319	Causes serious eye irritation.

## Stat-Rez ESD Nano 275 B

H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H411	Toxic to aquatic life with long lasting effects.
H335	May cause respiratory 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) 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.
P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P233	Keep container tightly closed.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof (electrical/ventilating/lighting) equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P261	Avoid breathing dust/fumes/gas/mist/vapors/spray
P271	Use only outdoors or in a well-ventilated area.
P264	Wash thoroughly after handling.
P272	Contaminated work clothing should not be allowed out of the workplace.
P273	Avoid release to the environment.

**Precautionary statement(s) Response**

P303+P351+P353	IF ON SKIN (or hair): Remove immediately all contaminated clothing. Rinse skin with water (or shower).
P333+P313	IF Skin irritation or rash occurs: Get medical advice/attention.
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.
P304+P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P342+P311	IF Experiencing respiratory symptoms: Call a POISON CENTER/doctor.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P391	Collect spillage.

**Precautionary statement(s) Storage**

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

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

See section below for composition of Mixtures

**Mixtures**

CAS No	%[weight]	Name
98-56-6	60-80	<u>4-chlorobenzotrifluoride</u>
28182-81-2	10-30	<u>hexamethylene diisocyanate polymer</u>
2530-83-8	1-5	<u>gamma-glycidoxypolytrimethoxysilane</u>
4083-64-1	0.1-1	<u>p-toluenesulfonyl isocyanate</u>

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

**SECTION 4 First-aid measures****Description of first aid measures**

Eye Contact	If this product comes in contact with the eyes:
-------------	---

Continued...

## Stat-Rez ESD Nano 275 B

	<ul style="list-style-type: none"> <li>▶ Wash out immediately with fresh running water.</li> <li>▶ 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.</li> <li>▶ Seek medical attention without delay; if pain persists or recurs seek medical attention.</li> <li>▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.</li> </ul>
<b>Skin Contact</b>	<p>If skin contact occurs:</p> <ul style="list-style-type: none"> <li>▶ Immediately remove all contaminated clothing, including footwear.</li> <li>▶ Flush skin and hair with running water (and soap if available).</li> <li>▶ Seek medical attention in event of irritation.</li> </ul>
<b>Inhalation</b>	<ul style="list-style-type: none"> <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> <li>▶ Transport to hospital, or doctor, without delay.</li> </ul> <p>Following uptake by inhalation, move person to an area free from risk of further exposure. Oxygen or artificial respiration should be administered as needed. Asthmatic-type symptoms may develop and may be immediate or delayed up to several hours. Treatment is essentially symptomatic. A physician should be consulted.</p>
<b>Ingestion</b>	<ul style="list-style-type: none"> <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 &amp; 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.
- ▶ Foam.
- ▶ Dry chemical powder.

**Special hazards arising from the substrate or mixture**

<b>Fire Incompatibility</b>	▶ 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**

<b>Fire Fighting</b>	<ul style="list-style-type: none"> <li>▶ Alert Fire Brigade and tell them location and nature of hazard.</li> <li>▶ May be violently or explosively reactive.</li> </ul>
<b>Fire/Explosion Hazard</b>	<ul style="list-style-type: none"> <li>▶ Liquid and vapour are flammable.</li> <li>▶ Moderate fire hazard when exposed to heat or flame.</li> </ul> <p>Combustion products include: carbon dioxide (CO<sub>2</sub>) carbon monoxide (CO) isocyanates hydrogen cyanide and minor amounts of hydrogen chloride phosgene nitrogen oxides (NO<sub>x</sub>) hydrogen fluoride other pyrolysis products typical of burning organic material.</p> <p>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</p> <ul style="list-style-type: none"> <li>▶ Burns with acrid black smoke.</li> </ul>

Continued...

## Stat-Rez ESD Nano 275 B

## 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"> <li>Remove all ignition sources.</li> <li>Clean up all spills immediately.</li> </ul>
Major Spills	<ul style="list-style-type: none"> <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> </ul> <p>For isocyanate spills of less than 40 litres (2 m2):</p> <ul style="list-style-type: none"> <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>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>Clear area of personnel and move upwind.</li> <li>Alert Fire Brigade and tell them location and nature of hazard.</li> </ul>

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"> <li>Containers, even those that have been emptied, may contain explosive vapours.</li> <li>Do NOT cut, drill, grind, weld or perform similar operations on or near containers.</li> <li>Avoid all personal contact, including inhalation.</li> <li>Wear protective clothing when risk of overexposure occurs.</li> <li><b>DO NOT allow clothing wet with material to stay in contact with skin</b></li> </ul>
Other information	<p>Consider storage under inert gas.</p> <ul style="list-style-type: none"> <li>Store in original containers in approved flammable liquid storage area.</li> <li>Store away from incompatible materials in a cool, dry, well-ventilated area.</li> </ul> <p>for commercial quantities of isocyanates:</p> <ul style="list-style-type: none"> <li>Isocyanates should be stored in adequately banded areas. Nothing else should be kept within the same bunding.</li> </ul>

## Conditions for safe storage, including any incompatibilities

Suitable container	<ul style="list-style-type: none"> <li>Packing as supplied by manufacturer.</li> <li>Plastic containers may only be used if approved for flammable liquid.</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> </ul>
Storage incompatibility	<ul style="list-style-type: none"> <li>Contact with water liberates highly flammable gases</li> <li>Avoid strong bases.</li> </ul> <p>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.</p> <ul style="list-style-type: none"> <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> </ul>

## 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
hexamethylene diisocyanate polymer	7.8 mg/m3	86 mg/m3	510 mg/m3
gamma-glycidoxypropyltrimethoxysilane	9.3 mg/m3	100 mg/m3	230 mg/m3

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

Continued...

## Stat-Rez ESD Nano 275 B


Ingredient	Original IDLH	Revised IDLH
p-toluenesulfonyl isocyanate	Not Available	Not Available

## Occupational Exposure Banding

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

<b>Appropriate engineering controls</b>	<p>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.</p> <ul style="list-style-type: none"> <li>▶ All processes in which isocyanates are used should be enclosed wherever possible.</li> <li>▶ Total enclosure, accompanied by good general ventilation, should be used to keep atmospheric concentrations below the relevant exposure standards.</li> </ul> <p>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.</p>
<b>Personal protection</b>	
<b>Eye and face protection</b>	<ul style="list-style-type: none"> <li>▶ Safety glasses with side shields.</li> <li>▶ Chemical goggles.</li> </ul>
<b>Skin protection</b>	See Hand protection below
<b>Hands/feet protection</b>	<p><b>NOTE:</b></p> <ul style="list-style-type: none"> <li>▶ 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.</li> </ul> <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> <ul style="list-style-type: none"> <li>▶ Do NOT wear natural rubber (latex gloves).</li> <li>▶ Isocyanate resistant materials include Teflon, Viton, nitrile rubber and some PVA gloves.</li> <li>▶ Protective gloves and overalls should be worn as specified in the appropriate national standard.</li> <li>▶ <b>DO NOT use skin cream unless necessary and then use only minimum amount.</b></li> <li>▶ Isocyanate vapour may be absorbed into skin cream and this increases hazard.</li> </ul>
<b>Body protection</b>	See Other protection below
<b>Other protection</b>	<ul style="list-style-type: none"> <li>▶ 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]</li> <li>▶ 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.</li> <li>▶ 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.</li> </ul> <p>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.</p> <ul style="list-style-type: none"> <li>▶ Overalls.</li> <li>▶ PVC Apron.</li> <li>▶ Some plastic personal protective equipment (PPE) (e.g. gloves, aprons, overshoes) are not recommended as they may produce static electricity.</li> <li>▶ For large scale or continuous use wear tight-weave non-static clothing (no metallic fasteners, cuffs or pockets).</li> </ul>

## 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 national standard must be used.

Continued...

## Stat-Rez ESD Nano 275 B

- ▶ 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
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)	47.22	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Flammable.	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 (%)	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"> <li>▶ Unstable in the presence of incompatible materials.</li> <li>▶ Product is considered stable.</li> </ul>
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

Inhaled	<p>Inhalation of vapours or aerosols (mists, fumes), generated by the material during the course of normal handling, may be harmful. The material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage. Inhalation hazard is increased at higher temperatures.</p> <p>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.</p> <p>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.</p> <p>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.</p>
Ingestion	<p>The material is not thought to produce adverse health effects following ingestion (as classified by EC Directives using animal models). Nevertheless, adverse systemic effects have been produced following exposure of animals by at least one other route and good hygiene practice requires that exposure be kept to a minimum.</p> <p>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.</p>

## Stat-Rez ESD Nano 275 B

<b>Skin Contact</b>	<p>Skin contact with the material may damage the health of the individual; systemic effects may result following absorption.</p> <p>Open cuts, abraded or irritated skin should not be exposed to this material</p> <p>Entry into the blood-stream, through, for example, cuts, abrasions 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 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.</p>
<b>Eye</b>	<p>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.</p>
<b>Chronic</b>	<p>Long-term exposure to respiratory irritants may result in airways disease, involving difficulty breathing and related whole-body problems. Inhaling this product is more likely to cause a sensitisation reaction in some persons compared to the general population.</p> <p>Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population.</p> <p>There is ample evidence that this material can be regarded as being able to cause cancer in humans based on experiments and other information.</p> <p>Ample evidence exists, from results in experimentation, that developmental disorders are directly caused by human exposure to the material. Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.</p> <p>This product contains a polymer with a functional group considered to be of high concern. Isothiocyanates may cause hypersensitivity of the skin and airways.</p> <p>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.</p> <p>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.</p> <p>Animal testing shows that polymeric MDI can damage the nasal cavities and lungs, causing inflammation and increased cell growth.</p> <p>4-chlorobenzotrifluoride (PCBTF) may have potential to cause cancer because of its structural similarities with two known cancer causing agents.</p>

<b>Stat-Rez ESD Nano 275 B</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Not Available	Not Available
<b>4-chlorobenzotrifluoride</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Dermal (rabbit) LD50: >2 mg/kg <sup>[2]</sup>	Not Available
	Inhalation(Rat) LC50; >32.03 mg/4h <sup>[1]</sup>	
	Oral(Rat) LD50; 5546 mg/kg <sup>[1]</sup>	
<b>hexamethylene diisocyanate polymer</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	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>	
<b>gamma-glycidoxypolytrimethoxysilane</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Dermal (rabbit) LD50: 4247.9 mg/kg <sup>[2]</sup>	Not Available
	Inhalation(Rat) LC50; >5.3 mg/4h <sup>[1]</sup>	
	Oral(Rat) LD50; >5350 mg/kg <sup>[1]</sup>	
<b>p-toluenesulfonyl isocyanate</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	dermal (rat) LD50: >2000 mg/kg <sup>[1]</sup>	Not Available
	Inhalation(Rat) LC50; >320 ppm4h <sup>[2]</sup>	
	Oral(Rat) LD50; 2234 mg/kg <sup>[2]</sup>	
<b>Legend:</b>	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	

<b>HEXAMETHYLENE DIISOCYANATE POLYMER</b>	<p>* Bayer SDS ** Ardex SDS No significant acute toxicological data identified in literature search.</p> <p>The material may produce moderate eye irritation leading to inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.</p> <p>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>
<b>GAMMA-GLYCIDOXYPROPYLTRIMETHOXYSILANE</b>	<p>Low molecular weight alkoxysilane can cause irreversible lung damage when inhaled at low dose. It is not an obvious skin irritant.</p> <p>For gamma-glycidopropyltrimethoxysilane (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 sensitizer in humans or in animals.</p> <p>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.</p> <p>For 1,2-butylene oxide (ethyloxirane):</p> <p>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.</p>
<b>P-TOLUENESULFONYL ISOCYANATE</b>	<p>For p-toluenesulfonyl isocyanate: The acute semi-lethal dose is 2600mg/kg by mouth. Because PTSA is rapidly broken down to PTSA and carbon dioxide, its repeated dose, reproductive, developmental and genetic toxicity are best described by PTSA.</p> <p>For p-toluenesulfonamide (PTSA):</p> <p>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 fetuses or disorders in breast feeding.</p>

## Stat-Rez ESD Nano 275 B

<b>Stat-Rez ESD Nano 275 B &amp; 4-CHLOROBENZOTRIFLUORIDE &amp; P-TOLUENESULFONYL ISOCYANATE</b>	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.
<b>Stat-Rez ESD Nano 275 B &amp; HEXAMETHYLENE DIISOCYANATE POLYMER &amp; P-TOLUENESULFONYL ISOCYANATE</b>	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. 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.
<b>Stat-Rez ESD Nano 275 B &amp; HEXAMETHYLENE DIISOCYANATE POLYMER</b>	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.
<b>Stat-Rez ESD Nano 275 B &amp; 4-CHLOROBENZOTRIFLUORIDE</b>	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.

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

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

## SECTION 12 Ecological information

## Toxicity

Stat-Rez ESD Nano 275 B	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available
4-chlorobenzotrifluoride	Endpoint	Test Duration (hr)	Species	Value	Source
	NOEC(ECx)	504h	Crustacea	0.03mg/l	1
	EC50	72h	Algae or other aquatic plants	>0.41mg/l	2
	LC50	96h	Fish	3mg/l	2
	EC50	48h	Crustacea	3.68mg/l	1
hexamethylene diisocyanate polymer	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50	72h	Algae or other aquatic plants	>1000mg/l	2
	LC50	96h	Fish	8.9mg/l	2
	NOEC(ECx)	72h	Algae or other aquatic plants	50mg/l	2
gamma-glycidioxypropyltrimethoxysilane	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50	72h	Algae or other aquatic plants	>420mg/l	2
	EC50	48h	Crustacea	473mg/l	2
	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
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
	LC50	96h	Fish	>45mg/l	2
	EC50	48h	Crustacea	>100mg/l	2

**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

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 polyisocyanates:

Polyisocyanates are not readily biodegradable. However, due to other elimination mechanisms (hydrolysis, adsorption), long retention times in water are not to be expected.

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).

## Stat-Rez ESD Nano 275 B

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.

**DO NOT** discharge into sewer or waterways.

## Persistence and degradability

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

## Bioaccumulative potential

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

## Mobility in soil

Ingredient	Mobility
4-chlorobenzotrifluoride	LOW (KOC = 1912)
hexamethylene diisocyanate polymer	LOW (KOC = 18560000)
gamma-glycidoxypropyltrimethoxysilane	LOW (KOC = 90.22)
p-toluenesulfonyl isocyanate	LOW (KOC = 882.1)



## SECTION 13 Disposal considerations

## Waste treatment methods

Product / Packaging disposal	<ul style="list-style-type: none"> <li>Containers may still present a chemical hazard/ danger when empty.</li> <li>Return to supplier for reuse/ recycling if possible.</li> </ul> <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"> <li><b>DO NOT allow wash water from cleaning or process equipment to enter drains.</b></li> <li>It may be necessary to collect all wash water for treatment before disposal.</li> <li>Recycle wherever possible.</li> <li>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.</li> </ul>
------------------------------	---

## 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)	<table> <tr> <td>Class</td><td>3</td></tr> <tr> <td>Subrisk</td><td>Not Applicable</td></tr> </table>	Class	3	Subrisk	Not Applicable
Class	3				
Subrisk	Not Applicable				
Packing group	III				
Environmental hazard	Environmentally hazardous				

## Stat-Rez ESD Nano 275 B

Special precautions for user	Hazard Label	3
	Special provisions	B1, B52, IB3, T2, TP1

## Air transport (ICAO-IATA / DGR)

UN number	1866	
UN proper shipping name	Resin solution flammable (contains 4-chlorobenzotrifluoride)	
Transport hazard class(es)	ICAO/IATA Class	3
	ICAO / IATA Subrisk	Not Applicable
	ERG Code	3L
Packing group	III	
Environmental hazard	Environmentally hazardous	
Special precautions for user	Special provisions	A3
	Cargo Only Packing Instructions	366
	Cargo Only Maximum Qty / Pack	220 L
	Passenger and Cargo Packing Instructions	355
	Passenger and Cargo Maximum Qty / Pack	60 L
	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
4-chlorobenzotrifluoride	Not Available
hexamethylene diisocyanate polymer	Not Available
gamma-glycidoxypropyltrimethoxysilane	Not Available
p-toluenesulfonyl isocyanate	Not Available

## Transport in bulk in accordance with the ICG Code

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

## SECTION 15 Regulatory information

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

4-chlorobenzotrifluoride is found on the following regulatory lists

## Stat-Rez ESD Nano 275 B

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

**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)

**gamma-glycidoxypolytrimethoxysilane 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

**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

## Federal Regulations

### Superfund Amendments and Reauthorization Act of 1986 (SARA)

#### Section 311/312 hazard categories

Flammable (Gases, Aerosols, Liquids, or Solids)	Yes
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	Yes
Acute toxicity (any route of exposure)	No
Reproductive toxicity	Yes
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)	No
Aspiration Hazard	No
Germ cell mutagenicity	No
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 can expose you to chemicals including **4-chlorobenzotrifluoride**, which is known to the State of California to cause cancer. For more information, go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

## National Inventory Status

National Inventory	Status
Australia - AIIC / Australia Non-Industrial Use	Yes
Canada - DSL	Yes
Canada - NDSL	No (4-chlorobenzotrifluoride; gamma-glycidoxypolytrimethoxysilane; p-toluenesulfonyl isocyanate)
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	Yes
Japan - ENCS	No (hexamethylene diisocyanate polymer)
Korea - KECI	Yes
New Zealand - NZIoC	Yes
Philippines - PICCS	Yes

Continued...

## Stat-Rez ESD Nano 275 B

National Inventory	Status
USA - TSCA	Yes
Taiwan - TCSI	Yes
Mexico - INSQ	No (4-chlorobenzotrifluoride; hexamethylene diisocyanate polymer; gamma-glycidoxypolytrimethoxysilane; p-toluenesulfonyl isocyanate)
Vietnam - NCI	Yes
Russia - FBEPH	Yes
<b>Legend:</b>	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	09/07/2021
Initial Date	08/24/2019

## CONTACT POINT

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

## SDS Version Summary

Version	Date of Update	Sections Updated
5.6.12.10	09/07/2021	Acute Health (inhaled), Acute Health (swallowed), Chronic Health, Engineering Control, Ingredients, Personal Protection (other)

## 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  
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  
AIC: 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

Powered by AuthorITe, from Chemwatch.