

Polyaspartic 7500 VOC 'B' ICP Building Solutions Group

Version No: **5.11**Safety Data Sheet according to OSHA HazCom Standard (2012) requirements

Issue Date: 11/04/2020 Print Date: 11/12/2021 S.GHS.USA.EN

SECTION 1 Identification

Product Identifier

Floudet identifier		
Product name	Polyaspartic 7500 VOC 'B'	
Synonyms	Not Available	
Proper shipping name	Resin Solution, flammable (contains butyl acetate)	
Other means of identification	Not Available	

Recommended use of the chemical and restrictions on use

Relevant identified uses	High performance coating
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Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

Registered company name	ICP Building Solutions Group
Address	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 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, Specific Target Organ Toxicity - Single Exposure (Narcotic Effects) Category 3, Acute Toxicity (Inhalation) Category 4, Skin Corrosion/Irritation Category 2, Reproductive Toxicity Category 2, Sensitisation (Skin) Category 1, Carcinogenicity Category 2, Hazardous to the Aquatic Environment Long-Term Hazard Category 3

Label elements

Hazard pictogram(s)







Signal word Dar

Hazard statement(s)

H226 Flammable liquid and vapour.

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11240	
H319	Causes serious eye irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H336	May cause drowsiness or dizziness.
H332	Harmful if inhaled.
H315	Causes skin irritation.
H361	Suspected of damaging fertility or the unborn child.
H317	May cause an allergic skin reaction.
H351	Suspected of causing cancer.
H412	Harmful to aquatic life with long lasting effects.

Hazard(s) not otherwise classified

Not Applicable

Precautionary statement(s) Prevention

P202	Oo not handle until all safety precautions have been read and understood.	
P210 P260	Keep away from heat/sparks/open flames/hot surfaces No smoking. Do not breathe dust/fume/gas/mist/vapours/spray.	
P271	Use only outdoors or in a well ventilated area	
P280	Wear protective gloves/protective clothing/eye protection/face protection	

Precautionary statement(s) Response

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

Precautionary statement(s) Storage

P233	Keep container tightly closed.	
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
28182-81-2	50-60	hexamethylene diisocyanate polymer
822-06-0	<1	hexamethylene diisocyanate
103-23-1	<1	dioctyl adipate
98-56-6	5-10	4-chlorobenzotrifluoride
540-88-5	30-40	tert-butyl acetate

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

If this product comes in contact with the eyes: Wash out immediately with fresh running water. Figure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper **Eye Contact** 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. If skin or hair contact occurs: ▶ Immediately flush body and clothes with large amounts of water, using safety shower if available. Skin Contact Quickly remove all contaminated clothing, including footwear. Wash skin and hair with running water. Continue flushing with water until advised to stop by the Poisons Information Centre. ► Transport to hospital, or doctor.

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If fumes or combustion products are inhaled remove from contaminated area. Lay patient down. Keep warm and rested. Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures. Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary. Inhalation Transport to hospital, or doctor, without delay. 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. Immediately give a glass of water. First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor. Ingestion If spontaneous vomiting appears imminent or occurs, hold patient's head down, lower than their hips to help avoid possible aspiration of

Most important symptoms and effects, both acute and delayed

See Section 11

Indication of any immediate medical attention and special treatment needed

Any material aspirated during vomiting may produce lung injury. Therefore emesis should not be induced mechanically or pharmacologically. Mechanical means should be used if it is considered necessary to evacuate the stomach contents; these include gastric lavage after endotracheal intubation. If spontaneous vomiting has occurred after ingestion, the patient should be monitored for difficult breathing, as adverse effects of aspiration into the lungs may be delayed up to 48 hours. Treat symptomatically.

for simple esters:

BASIC TREATMENT

- Establish a patent airway with suction where necessary.
- Watch for signs of respiratory insufficiency and assist ventilation as necessary.
- Administer oxygen by non-rebreather mask at 10 to 15 l/min.
- Monitor and treat, where necessary, for pulmonary oedema .
- Monitor and treat, where necessary, for shock.
- DO NOT use emetics. Where ingestion is suspected rinse mouth and give up to 200 ml water (5 ml/kg recommended) for dilution where patient is able to swallow, has a strong gag reflex and does not drool
- ► Give activated charcoal

ADVANCED TREATMENT

Consider orotracheal or nasotracheal intubation for airway control in unconscious patient or where respiratory arrest has occurred.

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

EMERGENCY DEPARTMENT

- Laboratory analysis of complete blood count, serum electrolytes, BUN, creatinine, glucose, urinalysis, baseline for serum aminotransferases (ALT and AST), calcium, phosphorus and magnesium, may assist in establishing a treatment regime. Other useful analyses include anion and osmolar gaps, arterial blood gases (ABGs), chest radiographs and
- Positive end-expiratory pressure (PEEP)-assisted ventilation may be required for acute parenchymal injury or adult respiratory distress syndrome.
- ► Consult a toxicologist as necessary

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

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

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- ▶ Alcohol stable foam.
- 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

Fire Fighting

- Alert Fire Brigade and tell them location and nature of hazard.
- Wear breathing apparatus plus protective gloves in the event of a fire.
- Prevent, by any means available, spillage from entering drains or water courses.

Liquid and vapour are flammable.

- Moderate fire hazard when exposed to heat or flame.
- Vapour forms an explosive mixture with air.

Combustion products include: carbon dioxide (CO2)

Fire/Explosion Hazard

isocyanates hydrogen cyanide

and minor amounts of

nitrogen oxides (NOx)

other pyrolysis products typical of burning organic material.

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

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

- Remove all ignition sources.
- Clean up all spills immediately.
- Avoid breathing vapours and contact with skin and eyes.

Major Spills

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. For isocyanate spills of less than 40 litres (2 m2):

- 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.
- Notify supervision and others as necessary.
- Put on personal protective equipment (suitable respiratory protection, face and eye protection, protective suit, gloves and impermeable
- Avoid contamination with water, alkalies and detergent solutions.
- Material reacts with water and generates gas, pressurises containers with even drum rupture resulting.
- DO NOT reseal container if contamination is suspected.
- Clear area of personnel and move upwind.
- Alert Fire Brigade and tell them location and nature of hazard.
- May be violently or explosively reactive.

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

SECTION 7 Handling and storage

Precautions for safe handling

Safe handling

- Avoid all personal contact, including inhalation.
- Wear protective clothing when risk of exposure occurs
- Use in a well-ventilated area.
- DO NOT allow clothing wet with material to stay in contact with skin

Other information

Consider storage under inert gas 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 segregated.

- Store in original containers.
- ▶ Keep containers securely sealed.
- ▶ Store in a cool, dry, well-ventilated area.

Conditions for safe storage, including any incompatibilities

Suitable container

- Lined metal can, lined metal pail/ can.
- Plastic pail.
 - Polyliner drum.

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For low viscosity materials

- Drums and jerricans must be of the non-removable head type.
- ▶ Where a can is to be used as an inner package, the can must have a screwed enclosure.

For materials with a viscosity of at least 2680 cSt.

Butyl acetates:

- reacts violently with oxidisers
- real incompatible with strong acids, nitrates, potassium tert-butoxide
- ▶ attacks some plastics, rubber and coatings
- ▶ Esters react with acids to liberate heat along with alcohols and acids.
- ▶ Strong oxidising acids may cause a vigorous reaction with esters that is sufficiently exothermic to ignite the reaction products.
- ▶ Heat is also generated by the interaction of esters with caustic solutions.
- Avoid strong acids, bases.

·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.

- A range of exothermic decomposition energies for isocyanates is given as 20-30 kJ/mol.
- 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.
- 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.

SECTION 8 Exposure controls / personal protection

Control parameters

Occupational Exposure Limits (OEL)

Storage incompatibility

INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
US NIOSH Recommended Exposure Limits (RELs)	hexamethylene diisocyanate	Hexamethylene diisocyanate	0.005 ppm / 0.035 mg/m3	Not Available	0.020 (10-minute) ppm / 0.140 (10-minute) mg/m3	Not Available
US ACGIH Threshold Limit Values (TLV)	hexamethylene diisocyanate	Hexamethylene diisocyanate	0.005 ppm	Not Available	Not Available	BEI
US OSHA Permissible Exposure Limits (PELs) Table Z-1	tert-butyl acetate	tert-Butyl-acetate	200 ppm / 950 mg/m3	Not Available	Not Available	Not Available
US NIOSH Recommended Exposure Limits (RELs)	tert-butyl acetate	tert-Butyl acetate	200 ppm / 950 mg/m3	Not Available	Not Available	Not Available
US ACGIH Threshold Limit Values (TLV)	tert-butyl acetate	Butyl acetates, all isomers	50 ppm	150 ppm	Not Available	Not Available

Emergency Limits

Ingredient	TEEL-1	TEEL-2	TEEL-3
hexamethylene diisocyanate polymer	7.8 mg/m3	86 mg/m3	510 mg/m3
hexamethylene diisocyanate	0.018 ppm	0.2 ppm	3 ppm
dioctyl adipate	17 mg/m3	180 mg/m3	1,100 mg/m3
tert-butyl acetate	600 ppm	1,700 ppm	10,000 ppm

Ingredient	Original IDLH	Revised IDLH
hexamethylene diisocyanate polymer	Not Available	Not Available
hexamethylene diisocyanate	Not Available	Not Available
dioctyl adipate	Not Available	Not Available
4-chlorobenzotrifluoride	Not Available	Not Available
tert-butyl acetate	1,500 ppm	Not Available

Occupational Exposure Banding

Ingredient	Occupational Exposure Band Rating	Occupational Exposure Band Limit
hexamethylene diisocyanate polymer	E	≤ 0.1 ppm
dioctyl adipate	E	≤ 0.1 ppm
4-chlorobenzotrifluoride	E	≤ 0.1 ppm

Notes:

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

Exposure controls

Appropriate engineering controls

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

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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.

or esters

▶ Do NOT use natural rubber, butyl rubber, EPDM or polystyrene-containing materials.

Hands/feet protection

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.

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

Other protection

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.

- Overalls
- ► Eyewash unit.
- Barrier cream.

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.		
Planta Later	15.71	Datation Laurite (Water A)	N. A. STALL
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

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Initial boiling point and boiling range (°C)	Not Available	Molecular weight (g/mol)	Not Available
Flash point (°C)	<100	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Not Applicable	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Available	Surface Tension (dyn/cm or mN/m)	Not Available
Lower Explosive Limit (%)	Not Available	Volatile Component (%vol)	Not Available
Vapour pressure (kPa)	Not Available	Gas group	Not Available
Solubility in water	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	 Unstable in the presence of incompatible materials. Product is considered stable. Hazardous polymerisation will not occur.
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

Chronic

Information on toxicological effects

Information on toxicological ef	fects
Inhaled	There is strong evidence to suggest that this material can cause, if inhaled once, very serious, irreversible damage of organs. The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting. Inhalation of vapours may cause drowsiness and dizziness. This may be accompanied by sleepiness, reduced alertness, loss of reflexes, lack of co-ordination, and vertigo. 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 vapours or aerosols (mists, fumes), generated by the material during the course of normal handling, may produce toxic effects. Prolonged exposure may cause headache, nausea and ultimately loss of consciousness.
Ingestion	There is strong evidence to suggest that this material can cause, if swallowed once, very serious, irreversible damage of organs. The material has NOT been classified by EC Directives or other classification systems as "harmful by ingestion". This is because of the lack of corroborating animal or human evidence. 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. Accidental ingestion of the material may be harmful; animal experiments indicate that ingestion of less than 150 gram may be fatal or may produce serious damage to the health of the individual. Swallowing of the liquid may cause aspiration into the lungs with the risk of chemical pneumonitis; serious consequences may result. (ICSC13733)
Skin Contact	There is strong evidence to suggest that this material, on a single contact with skin, can cause very serious, irreversible damage of organs. The material may accentuate any pre-existing dermatitis condition Skin contact is not thought to have harmful health effects (as classified under EC Directives); the material may still produce health damage following entry through wounds, lesions or abrasions. 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. Skin contact with the material may damage the health of the individual; systemic effects may result following absorption. 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.

There has been concern that this material can cause cancer or mutations, but there is not enough data to make an assessment. 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. Ample evidence from experiments exists that there is a suspicion this material directly reduces fertility.

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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

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.

CONTAINS free organic isocyanate. Mixing and application requires special precautions and use of personal protective gear [APMF]

Polyaspartic 7500 VOC 'B'	TOXICITY	IRRITATION
1 olyaspartic 7000 VOO B	Not Available	Not Available
	TOXICITY	IRRITATION
examethylene diisocyanate	Dermal (rabbit) LD50: >2000 mg/kg ^[1]	Skin (rabbit): 500 mg - moderate
polymer	Inhalation(Rat) LC50; 0.052-0.5 mg/L4h ^[1]	
	Oral(Rat) LD50; >2000 mg/kg ^[1]	
	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: 593 mg/kg ^[2]	Eye: adverse effect observed (irritating) ^[1]
examethylene diisocyanate	Inhalation(Rat) LC50; 0.06 mg/L4h ^[2]	Skin: adverse effect observed (corrosive) ^[1]
	Oral(Mouse) LD50; 350 mg/kg ^[2]	Skin: adverse effect observed (irritating) ^[1]
	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: 8410 mg/kg ^[2]	Eye (rabbit): 500 mg (open)
	Inhalation(Rat) LC50; >5.7 mg/l4h ^[1]	Eye (rabbit): 500 mg/24h - mild
dioctyl adipate	Oral(Rat) LD50; 7392 mg/kg ^[2]	Eye: no adverse effect observed (not irritating) ^[1]
		Skin (rabbit): 500 mg(open)-mild
		Skin: no adverse effect observed (not irritating) ^[1]
	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: >2 mg/kg ^[2]	Not Available
4-chlorobenzotrifluoride	Inhalation(Rat) LC50; >32.03 mg/l4h ^[1]	
	Oral(Mouse) LD50; 11500 mg/kg ^[2]	
	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: >2000 mg/kg ^[1]	Eye (human): 300 mg
tert-butyl acetate	Inhalation(Rat) LC50; >2.23 mg/l4h ^[1]	Eye (rabbit): 20 mg (open)-SEVERE
	Oral(Rat) LD50; 4100 mg/kg ^[1]	Eye (rabbit): 20 mg/24h - moderate
		Skin (rabbit): 500 mg/24h-moderate
Legend:	Nalue obtained from Europe ECHA Registered Substance specified data extracted from RTECS - Register of Toxic Ef	es - Acute toxicity 2.* Value obtained from manufacturer's SDS. Unless otherwi

HEXAMETHYLENE DIISOCYANATE POLYMER	* Bayer SDS ** Ardex SDS 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.
HEXAMETHYLENE DIISOCYANATE	Aromatic and aliphatic diisocyanates may cause airway toxicity and skin sensitization. Monomers and prepolymers exhibit similar respiratory effect. Of the several members of diisocyanates tested on experimental animals by inhalation and oral exposure, some caused cancer while others produced a harmless outcome. For 1,6-hexamethylene diisocyanate (HDI): Exposures to HDI are often associated with exposures to its prepolymers, one of which is widely used as a hardener in automobile and airplane paints. Both the prepolymers and the native substance may cause asthma. HDI is corrosive to the skin and eye, and will sensitise the skin and airway.
DIOCTYL ADIPATE	Reproductive effector in rats. DEHA has been demonstrated to induce liver adenomas and carcinomas in mice but not in rats Group B substances are derived from linear diacids and mono functional alcohols. They have widespread applications as lubricants, solvents, and plasticisers. They are easily metabolised and excreted via the urine. The material may be irritating to the eye, with prolonged contact causing inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis. The substance is classified by IARC as Group 3: NOT classifiable as to its carcinogenicity to humans. Evidence of carcinogenicity may be inadequate or limited in animal testing.
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.

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Polyaspartic 7500 VOC 'B' & HEXAMETHYLENE DIISOCYANATE POLYMER & HEXAMETHYLENE DIISOCYANATE

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. 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.

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.

HEXAMETHYLENE DIISOCYANATE POLYMER & HEXAMETHYLENE DIISOCYANATE

No significant acute toxicological data identified in literature search.

HEXAMETHYLENE
DIISOCYANATE & DIOCTYL
ADIPATE &
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	✓	STOT - Repeated Exposure	×
Mutagenicity	×	Aspiration Hazard	×

Legend:

★ - Data either not available or does not fill the criteria for classification

Data available to make classification

SECTION 12 Ecological information

Toxicity

Polyaspartic 7500 VOC 'B'	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available
	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
	Endpoint	Test Duration (hr)	Species	Value	Source
	EC0(ECx)	24h	Crustacea	<0.33mg/l	1
hexamethylene diisocyanate	EC50	72h	Algae or other aquatic plants	>77.4mg/l	2
	LC50	96h	Fish	22mg/l	1
	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50	72h	Algae or other aquatic plants	>1.4mg/l	1
	EC50	48h	Crustacea	>1.6mg/l	1
dioctyl adipate	LC50	96h	Fish	>0.78mg/l	2
	ErC50	72h	Algae or other aquatic plants	>1.4mg/l	1
	NOEC(ECx)	504h	Crustacea	>0.77mg/l	1
	EC50	96h	Algae or other aquatic plants	>78mg/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
	NOEC(ECx)	72h	Algae or other aquatic plants	2.3mg/l	2
	EC50	72h	Algae or other aquatic plants	6.1mg/l	2
tert-butyl acetate	LC50	96h	Fish	240mg/l	2
	EC50	48h	Crustacea	350mg/l	2
	EC50	96h	Algae or other aquatic plants	5.8mg/l	2

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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

Harmful 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.

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
hexamethylene diisocyanate polymer	нівн	HIGH
hexamethylene diisocyanate	LOW	LOW
dioctyl adipate	LOW (Half-life = 56 days)	LOW (Half-life = 1.08 days)
4-chlorobenzotrifluoride	HIGH	HIGH
tert-butyl acetate	LOW	LOW

Bioaccumulative potential

Ingredient	Bioaccumulation
hexamethylene diisocyanate polymer	LOW (LogKOW = 7.5795)
hexamethylene diisocyanate	LOW (LogKOW = 3.1956)
dioctyl adipate	HIGH (BCF = 2700)
4-chlorobenzotrifluoride	LOW (BCF = 202)
tert-butyl acetate	LOW (LogKOW = 1.76)

Mobility in soil

Ingredient	Mobility
hexamethylene diisocyanate polymer	LOW (KOC = 18560000)
hexamethylene diisocyanate	LOW (KOC = 5864)
dioctyl adipate	LOW (KOC = 48630)
4-chlorobenzotrifluoride	LOW (KOC = 1912)
tert-butyl acetate	LOW (KOC = 13.53)

SECTION 13 Disposal considerations

Waste treatment methods

- ▶ 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

Product / Packaging disposal

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.
- DO NOT recycle spilled material.
- Consult State Land Waste Management Authority for disposal.
- Neutralise spill material carefully and decontaminate empty containers and spill residues with 10% ammonia solution plus detergent or a proprietary decontaminant prior to disposal.

SECTION 14 Transport information

Labels Required

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and transpor	t (DOT)
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UN number	1866		
UN proper shipping name	Resin Solution, flammable (contains butyl acetate)		
Transport hazard class(es)	Class 3 Subrisk Not Applicable		
Packing group	III		
Environmental hazard	Not Applicable		
Special precautions for user	Hazard Label Special provisions	3 B1, B52, IB3, T2, TP1	

Air transport (ICAO-IATA / DGR)

	•		
UN number	1866		
UN proper shipping name	Resin solution flammable (contains butyl acetate)		
	ICAO/IATA Class	3	
Transport hazard alass(ss)			
Transport hazard class(es)	ICAO / IATA Subrisk	Not Applicable	
	ERG Code	3L	
Packing group	III		
Environmental hazard	Not Applicable		
	Special provisions		А3
	Cargo Only Packing In	estructions	366
	Cargo Only Maximum	Qty / Pack	220 L
Special precautions for user	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 butyl acetate)		
Transport hazard class(es)	IMDG Class 3 IMDG Subrisk No	ot Applicable	
Packing group	III		
Environmental hazard	Not Applicable		
Special precautions for user	EMS Number Special provisions Limited Quantities	F-E , S-E 223 955 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		
hexamethylene diisocyanate polymer	Not Available		
hexamethylene diisocyanate	Not Available		
dioctyl adipate	Not Available		
4-chlorobenzotrifluoride	Not Available		
tert-butyl acetate	Not Available		

Transport in bulk in accordance with the ICG Code

Product name	Ship Type
--------------	-----------

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Polyaspartic 7500 VOC 'B'

Product name Ship Type hexamethylene diisocyanate Not Available polymer hexamethylene diisocyanate Not Available dioctyl adipate Not Available 4-chlorobenzotrifluoride Not Available Not Available tert-butyl acetate

SECTION 15 Regulatory information

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

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

hexamethylene diisocvanate is found on the following regulatory lists

US - California Hazardous Air Pollutants Identified as Toxic Air Contaminants

US - Massachusetts - Right To Know Listed Chemicals

US ACGIH Threshold Limit Values (TLV)

US ATSDR Minimal Risk Levels for Hazardous Substances (MRLs)

US Clean Air Act - Hazardous Air Pollutants

US DOE Temporary Emergency Exposure Limits (TEELs)

US EPA Integrated Risk Information System (IRIS)

US TSCA Chemical Substance Inventory - Interim List of Active Substances US TSCA New Chemical Exposure Limits (NCEL)

US EPCRA Section 313 Chemical List

US NIOSH Recommended Exposure Limits (RELs)

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)

US TSCA Section 4/12 (b) - Sunset Dates/Status

dioctyl adipate is found on the following regulatory lists

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

US - Massachusetts - Right To Know Listed Chemicals

US DOE Temporary Emergency Exposure Limits (TEELs)

US EPA Carcinogens Listing

US EPA Integrated Risk Information System (IRIS)

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 Proposition 65 - No Significant Risk Levels (NSRLs) for 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

tert-butyl acetate is found on the following regulatory lists

US - Massachusetts - Right To Know Listed Chemicals

US ACGIH Threshold Limit Values (TLV)

US CWA (Clean Water Act) - List of Hazardous Substances

US DOE Temporary Emergency Exposure Limits (TEELs)

US NIOSH Recommended Exposure Limits (RELs)

US OSHA Permissible Exposure Limits (PELs) Table Z-1

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 Self-reactive	No
In contact with water emits flammable gas	No
Combustible Dust	No
Carcinogenicity	Yes
Acute toxicity (any route of exposure)	Yes
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)	Yes
Aspiration Hazard	No

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No Germ cell mutagenicity Simple Asphyxiant No Hazards Not Otherwise Classified No

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

Name	Reportable Quantity in Pounds (lb)	Reportable Quantity in kg
hexamethylene diisocyanate	100	45.4
tert-butyl acetate	5000	2270

State Regulations

US. California Proposition 65



MARNING: 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

National Inventory Status

National Inventory	Status
Australia - AIIC / Australia Non-Industrial Use	Yes
Canada - DSL	Yes
Canada - NDSL	No (hexamethylene diisocyanate; dioctyl adipate; 4-chlorobenzotrifluoride; tert-butyl acetate)
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 (hexamethylene diisocyanate polymer; 4-chlorobenzotrifluoride)
Vietnam - NCI	Yes
Russia - FBEPH	Yes
Legend:	Yes = All CAS declared ingredients are on the inventory No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.

SECTION 16 Other information

Revision Date	11/04/2020
Initial Date	07/30/2019

CONTACT POINT

SDS Version Summary

Version	Date of Update	Sections Updated
4.11	11/04/2020	Ingredients, Physical Properties

Other information

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

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

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

^{**}PLEASE NOTE THAT TITANIUM DIOXIDE IS NOT PRESENT IN CLEAR OR NEUTRAL BASES**

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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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