Retro-Coat Top WB Part B

Land Science, a division of REGENESIS

Version No: **3.4**
Safety Data Sheet according to OSHA HazCom Standard (2012) requirements

Issue Date: **04/27/2023**
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S.GHS.USA.EN

SECTION 1 Identification

Product Identifier

Product name	Retro-Coat Top WB Part B
Synonyms	Not Available
Proper shipping name	Resin Solution, flammable
Other means of identification	Not Available

Recommended use of the chemical and restrictions on use

Relevant identified uses	Specialty flooring curative

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

Registered company name	**Land Science, a division of REGENESIS**
Address	1011 Calle Sombra San Clemente CA 92673 United States
Telephone	949-481-8118
Fax	949-366-8090
Website	landsciencetech.com
Email	CustomerService@LandScienceTech.com

Emergency phone number

Association / Organisation	**CHEMTREC 24/7**
Emergency telephone numbers	**1-800-424-9300 (USA and Canada)**
Other emergency telephone numbers	**1-703-527-3887 (International**

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, Acute Toxicity (Inhalation) Category 4, Skin Corrosion/Irritation Category 2, Sensitisation (Skin) Category 1, Hazardous to the Aquatic Environment Long-Term Hazard Category 3

Label elements

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

Hazard statement(s)

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H226	Flammable liquid and vapour.
H319	Causes serious eye irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H332	Harmful if inhaled.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H412	Harmful to aquatic life with long lasting effects.

Hazard(s) not otherwise classified

Not Applicable

Precautionary statement(s) General

P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.
P103	Read label before use.

Precautionary statement(s) Prevention

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233	Keep container tightly closed.
P271	Use only outdoors or in a well-ventilated area.
P284	[In case of inadequate ventilation] wear respiratory protection.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/lighting/intrinsically safe equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P261	Avoid breathing mist/vapours/spray.
P273	Avoid release to the environment.
P264	Wash all exposed external body areas thoroughly after handling.
P272	Contaminated work clothing must not be allowed out of the workplace.
P280	Wear protective gloves, protective clothing, eye protection and face protection.

Precautionary statement(s) Response

P342+P311	If experiencing respiratory symptoms: Call a POISON CENTER/doctor/physician/first aider.
P370+P378	In case of fire: Use alcohol resistant foam or normal protein foam to extinguish.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312	Call a POISON CENTER/doctor/physician/first aider/if you feel unwell.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P337+P313	If eye irritation persists: Get medical advice/attention.
P302+P352	IF ON SKIN: Wash with plenty of water and soap.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P332+P313	If skin irritation occurs: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.

Precautionary statement(s) Storage

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

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
822-06-0	0.1-1	hexamethylene diisocyanate
28182-81-2	45-70	hexamethylene diisocyanate polymer
666723-27-9	10-30	N,N-dimethylcyclohexylamine/ CAPS/ hexamethylene diisocyanate blocked
4098-71-9	0.1-1	isophorone diisocyanate
9046-01-9	1-5	tridecanol ethoxylated, phosphated

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CAS No	%[weight]	Name
53880-05-0	5-10	isophorone diisocyanate homopolymer
123-86-4	1-5	n-butyl acetate
88917-22-0*	5-10	dipropylene glycol monomethyl ether 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

Eye Contact	If this product comes in contact with the eyes: ▸ Immediately hold eyelids apart and flush the eye continuously with running water. ▸ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. ▸ Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes. ▸ Transport to hospital or doctor without delay. ▸ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	If skin contact occurs: ▸ Immediately remove all contaminated clothing, including footwear. ▸ Flush skin and hair with running water (and soap if available). ▸ Seek medical attention in event of irritation.
Inhalation	▸ If fumes or combustion products are inhaled remove from contaminated area. ▸ Lay patient down. Keep warm and rested. ▸ Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures. ▸ Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary. ▸ Transport to hospital, or doctor, without delay. 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.
Ingestion	▸ If swallowed do **NOT** induce vomiting. ▸ If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration. ▸ Observe the patient carefully. ▸ Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious. ▸ Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink. ▸ Seek medical advice. ▸ If spontaneous vomiting appears imminent or occurs, hold patient's head down, lower than their hips to help avoid possible aspiration of vomitus.

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.
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 electrocardiograph.
- 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

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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.
- Alcohol stable foam.
- Dry chemical powder.

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. ▸ May be violently or explosively reactive.
Fire/Explosion Hazard	▸ Liquid and vapour are flammable. ▸ Moderate fire hazard when exposed to heat or flame. Combustion products include: carbon dioxide (CO_2) carbon monoxide (CO) isocyanates hydrogen cyanide and minor amounts of nitrogen oxides (NOx) sulfur oxides (SOx) 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 ▸ Burns with acrid black smoke.

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	Environmental hazard - contain spillage. ▸ Remove all ignition sources. ▸ Clean up all spills immediately.
Major Spills	Environmental hazard - contain spillage. ▸ 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. ▸ Avoid contamination with water, alkalies and detergent solutions. ▸ Material reacts with water and generates gas, pressurises containers with even drum rupture resulting. ▸ Clear area of personnel and move upwind. ▸ Alert Fire Brigade and tell them location and nature of hazard.

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

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SECTION 7 Handling and storage

Precautions for safe handling

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

Conditions for safe storage, including any incompatibilities

Suitable container	‣ Packing as supplied by manufacturer. ‣ Plastic containers may only be used if approved for flammable liquid. ‣ 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.
Storage incompatibility	‣ 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. · 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. ‣ 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.

SECTION 8 Exposure controls / personal protection

Control parameters

Occupational Exposure Limits (OEL)

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 NIOSH Recommended Exposure Limits (RELs)	isophorone diisocyanate	Isophorone diisocyanate	0.005 ppm / 0.045 mg/m3	0.180 mg/m3 / 0.02 ppm	Not Available	[skin]
US OSHA Permissible Exposure Limits (PELs) Table Z-1	n-butyl acetate	n-Butyl-acetate	150 ppm / 710 mg/m3	Not Available	Not Available	Not Available
US NIOSH Recommended Exposure Limits (RELs)	n-butyl acetate	n-Butyl acetate	150 ppm / 710 mg/m3	950 mg/m3 / 200 ppm	Not Available	Not Available

Emergency Limits

Ingredient	TEEL-1	TEEL-2	TEEL-3
hexamethylene diisocyanate	0.018 ppm	0.2 ppm	3 ppm
hexamethylene diisocyanate polymer	7.8 mg/m3	86 mg/m3	510 mg/m3
isophorone diisocyanate	0.02 ppm	0.14 ppm	0.6 ppm
n-butyl acetate	Not Available	Not Available	Not Available

Ingredient	Original IDLH	Revised IDLH
hexamethylene diisocyanate	Not Available	Not Available
hexamethylene diisocyanate polymer	Not Available	Not Available
N,N-dimethylcyclohexylamine/ CAPS/ hexamethylene diisocyanate blocked	Not Available	Not Available
isophorone diisocyanate	Not Available	Not Available
tridecanol ethoxylated, phosphated	Not Available	Not Available
isophorone diisocyanate homopolymer	Not Available	Not Available
n-butyl acetate	1,700 ppm	Not Available
dipropylene glycol monomethyl ether acetate	Not Available	Not Available

Occupational Exposure Banding

Ingredient	Occupational Exposure Band Rating	Occupational Exposure Band Limit
hexamethylene diisocyanate	E	≤ 0.1 ppm

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Ingredient	Occupational Exposure Band Rating	Occupational Exposure Band Limit
polymer		
N,N-dimethylcyclohexylamine/ CAPS/ hexamethylene diisocyanate blocked	E	≤ 0.1 ppm
isophorone diisocyanate homopolymer	D	> 0.1 to ≤ 1 ppm
Notes:	*Occupational exposure banding is a process of assigning chemicals into specific categories or bands based on a chemical's potency and the adverse health outcomes associated with exposure. The output of this process is an occupational exposure band (OEB), which corresponds to a range of exposure concentrations that are expected to protect worker health.*	

Exposure controls

Appropriate engineering controls	Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection. ▸ 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.
Individual protection measures, such as personal protective equipment	
Eye and face protection	▸ Safety glasses with side shields. ▸ Chemical goggles.
Skin protection	See Hand protection below
Hands/feet protection	**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. For esters: ▸ Do NOT use natural rubber, butyl rubber, EPDM or polystyrene-containing materials. 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. ▸ 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. ▸ **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. ▸ Overalls. ▸ PVC Apron. ▸ Some plastic personal protective equipment (PPE) (e.g. gloves, aprons, overshoes) are not recommended as they may produce static electricity. ▸ For large scale or continuous use wear tight-weave non-static clothing (no metallic fasteners, cuffs or pockets).

Respiratory protection

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

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

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.

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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 (°C)**	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)	>48.89	**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 (1%)**	Not Available
Vapour density (Air = 1)	Not Available	**VOC g/L**	55.27

SECTION 10 Stability and reactivity

Reactivity	See section 7
Chemical stability	▸ Unstable in the presence of incompatible materials. ▸ Product is considered stable.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

SECTION 11 Toxicological information

Information on toxicological effects

Inhaled	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. The main effects of simple esters are irritation, stupor and insensibility. Headache, drowsiness, dizziness, coma and behavioural changes may occur. 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.
Ingestion	Accidental ingestion of the material may be harmful; animal experiments indicate that ingestion of less than 150 gram may be fatal or may produce serious damage to the health of the individual.
Skin Contact	The material may accentuate any pre-existing dermatitis condition Skin contact with the material may damage the health of the individual; systemic effects may result following absorption. Open cuts, abraded or irritated skin should not be exposed to this material Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected. The material may cause moderate inflammation of the skin either following direct contact or after a delay of some time. Repeated exposure can cause contact dermatitis which is characterised by redness, swelling and blistering.
Eye	If applied to the eyes, this material causes severe eye damage.
Chronic	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. Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population. Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure. Some glycol esters and their ethers cause wasting of the testicles, reproductive changes, infertility and changes to kidney function. Shorter chain compounds are more dangerous. This product contains a polymer with a functional group considered to be of high concern. Isothiocyanates may cause hypersensitivity of the skin and airways. The polymer this material contains and its functional group is of low concern. Blocked isocyanates have a group attached to them to reduce their reactivity compared to the unblocked version which is much more reactive.

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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 handling of isocyanates. The chemistry of reaction of isocyanates, as evidenced by MDI, in biological milieu is such that in the event of a true exposure of small MDI doses to the mouth, reactions will commence at once with biological macromolecules in the buccal region and will continue along the digestive tract prior to reaching the stomach. Animal testing shows that polymeric MDI can damage the nasal cavities and lungs, causing inflammation.and increased cell growth. 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. **CONTAINS** free organic isocyanate. Mixing and application requires special precautions and use of personal protective gear [APMF]

Retro-Coat Top WB Part B	**TOXICITY**	**IRRITATION**
	Not Available	Not Available
hexamethylene diisocyanate	**TOXICITY**	**IRRITATION**
	Dermal (rabbit) LD50: 593 mg/kg[2]	Eye: adverse effect observed (irritating)[1]
	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]
hexamethylene diisocyanate polymer	**TOXICITY**	**IRRITATION**
	dermal (rat) LD50: >2000 mg/kg[1]	Skin (rabbit): 500 mg - moderate
	Inhalation(Rat) LC50: 0.052-0.5 mg/L4h[1]	
	Oral (Rat) LD50: >2000 mg/kg[1]	
N,N-dimethylcyclohexylamine/ CAPS/ hexamethylene diisocyanate blocked	**TOXICITY**	**IRRITATION**
	Inhalation(Rat) LC50: 0.158 mg/L4h[2]	Not Available
	Oral (Rat) LD50: >5000 mg/kg[2]	
isophorone diisocyanate	**TOXICITY**	**IRRITATION**
	dermal (rat) LD50: >=2000 mg/kg[1]	Eye: no adverse effect observed (not irritating)[1]
	Inhalation(Rat) LC50: 0.031 mg/L4h[1]	Skin: adverse effect observed (irritating)[1]
	Oral (Rat) LD50: >=2000 mg/kg[1]	Skin: no adverse effect observed (not irritating)[1]
tridecanol ethoxylated, phosphated	**TOXICITY**	**IRRITATION**
	Oral (Rat) LD50: >2000 mg/kg[2]	Not Available
isophorone diisocyanate homopolymer	**TOXICITY**	**IRRITATION**
	Inhalation(Rat) LC50: 3.538 mg/L4h[1]	Not Available
	Oral (Rat) LD50: 5000 mg/kg[1]	
n-butyl acetate	**TOXICITY**	**IRRITATION**
	Dermal (rabbit) LD50: 3200 mg/kg[2]	Eye (human): 300 mg * [PPG]
	Inhalation(Rat) LC50: 0.74 mg/l4h[2]	Eye (rabbit): 20 mg (open)-SEVERE
	Oral (Rabbit) LD50; 3200 mg/kg[2]	Eye (rabbit): 20 mg/24h - moderate
		Eye: no adverse effect observed (not irritating)[1]
		Skin (rabbit): 500 mg/24h-moderate
		Skin: no adverse effect observed (not irritating)[1]
dipropylene glycol monomethyl ether acetate	**TOXICITY**	**IRRITATION**
	Dermal (rabbit) LD50: >5000 mg/kg*[2]	Not Available
	Oral (Rat) LD50: >5000 mg/kg*[2]	
Legend:	*1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances*	

HEXAMETHYLENE DIISOCYANATE	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.
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.
N,N-DIMETHYLCYCLOHEXYLAMINE/ CAPS/ HEXAMETHYLENE DIISOCYANATE BLOCKED	SDS Ardex 6 P Part B Crosslinker Ardex Engineered Cements

Continued...

TRIDECANOL ETHOXYLATED, PHOSPHATED	Stephan SDS For alkyl alcohol alkoxylate phosphate (AAAPD) surfactants (alkyl or alcohol ether phosphates): Acute toxicity: This group of surfactants exhibit similar effects to the alcohol ether sulfates (AAASDs, such as sodium lauryl ether sulfate). They are likely to be irritating to the skin and eyes (R36/R38) in their undiluted forms, but not acutely toxic. For acid mists, aerosols, vapours Test results suggest that eukaryotic cells are susceptible to genetic damage when the pH falls to about 6.5. Cells from the respiratory tract have not been examined in this respect. Polyethers (such as ethoxylated surfactants and polyethylene glycols) are highly susceptible to being oxidized in the air. They then form complex mixtures of oxidation products. Animal testing reveals that whole the pure, non-oxidised surfactant is non-sensitizing, many of the oxidation products are sensitisers.
N-BUTYL ACETATE	The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.
dipropylene glycol monomethyl ether acetate	For propylene glycol ethers (PGEs): Typical propylene glycol ethers include propylene glycol n-butyl ether (PnB); dipropylene glycol n-butyl ether (DPnB); dipropylene glycol methyl ether acetate (DPMA) and tripropylene glycol methyl ether (TPM). Testing of a wide variety of propylene glycol ethers has shown that propylene glycol-based ethers are less toxic than some ethers of the ethylene series. The common toxicities associated with the lower molecular weight homologues of the ethylene series, such as adverse effects on the reproductive organs, the developing embryo and foetus, blood or thymus gland, are not seen with the commercial-grade propylene glycol ethers.
Retro-Coat Top WB Part B & HEXAMETHYLENE DIISOCYANATE & N,N-DIMETHYLCYCLOHEXYLAMINE/ CAPS/ HEXAMETHYLENE DIISOCYANATE BLOCKED & ISOPHORONE DIISOCYANATE & TRIDECANOL ETHOXYLATED, PHOSPHATED & dipropylene glycol monomethyl ether acetate	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.
Retro-Coat Top WB Part B & HEXAMETHYLENE DIISOCYANATE & HEXAMETHYLENE DIISOCYANATE POLYMER & N,N-DIMETHYLCYCLOHEXYLAMINE/ CAPS/ HEXAMETHYLENE DIISOCYANATE BLOCKED & ISOPHORONE 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. 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.
Retro-Coat Top WB Part B & HEXAMETHYLENE DIISOCYANATE & HEXAMETHYLENE DIISOCYANATE POLYMER & N,N-DIMETHYLCYCLOHEXYLAMINE/ CAPS/ HEXAMETHYLENE DIISOCYANATE BLOCKED & ISOPHORONE DIISOCYANATE & ISOPHORONE DIISOCYANATE HOMOPOLYMER	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. 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.
Retro-Coat Top WB Part B & N-BUTYL ACETATE	Generally,linear and branched-chain alkyl esters are hydrolysed to their component alcohols and carboxylic acids in the intestinal tract, blood and most tissues throughout the body. Following hydrolysis the component alcohols and carboxylic acids are metabolized Oral acute toxicity studies have been reported for 51 of the 67 esters of aliphatic acyclic primary alcohols and aliphatic linear saturated carboxylic acids.
HEXAMETHYLENE DIISOCYANATE & HEXAMETHYLENE DIISOCYANATE POLYMER & N,N-DIMETHYLCYCLOHEXYLAMINE/ CAPS/ HEXAMETHYLENE DIISOCYANATE BLOCKED & ISOPHORONE DIISOCYANATE HOMOPOLYMER	No significant acute toxicological data identified in literature search.
HEXAMETHYLENE DIISOCYANATE & ISOPHORONE DIISOCYANATE	Aromatic and aliphatic diisocyanates may cause airway toxicity and skin sensitization. Monomers and prepolymers exhibit similar respiratory effect.
HEXAMETHYLENE DIISOCYANATE POLYMER & N-BUTYL ACETATE	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.

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

	Endpoint	Test Duration (hr)	Species	Value	Source
Retro-Coat Top WB Part B					

Continued...

	Not Available	Not Available	Not Available	Not Available	Not Available

hexamethylene diisocyanate

Endpoint	Test Duration (hr)	Species	Value	Source
EC0(ECx)	24h	Crustacea	<0.33mg/l	1
EC50	72h	Algae or other aquatic plants	>77.4mg/l	2
LC50	96h	Fish	22mg/l	1

hexamethylene diisocyanate polymer

Endpoint	Test Duration (hr)	Species	Value	Source
EC50(ECx)	48h	Crustacea	>100mg/l	Not Available
EC50	72h	Algae or other aquatic plants	>1000mg/l	Not Available
LC50	96h	Fish	>100mg/l	Not Available
EC50	48h	Crustacea	>100mg/l	Not Available

N,N-dimethylcyclohexylamine/ CAPS/ hexamethylene diisocyanate blocked

Endpoint	Test Duration (hr)	Species	Value	Source
EC50(ECx)	72h	Algae or other aquatic plants	72mg/l	Not Available
EC50	72h	Algae or other aquatic plants	72mg/l	Not Available
LC50	96h	Fish	35.2mg/l	Not Available
EC50	48h	Crustacea	>100mg/l	Not Available

isophorone diisocyanate

Endpoint	Test Duration (hr)	Species	Value	Source
ErC50	72h	Algae or other aquatic plants	>70mg/l	2
NOEC(ECx)	96h	Crustacea	0.56mg/l	1
LC50	96h	Fish	>72mg/l	2
EC50	72h	Algae or other aquatic plants	>70mg/l	2
EC50	48h	Crustacea	27mg/l	2

tridecanol ethoxylated, phosphated

Endpoint	Test Duration (hr)	Species	Value	Source
Not Available	Not Available	Not Available	Not Available	Not Available

isophorone diisocyanate homopolymer

Endpoint	Test Duration (hr)	Species	Value	Source
NOEC(ECx)	816h	Fish	>=0.033mg/l	2
EC50	72h	Algae or other aquatic plants	>3.1mg/l	2
LC50	96h	Fish	>1.51mg/l	2
EC50	48h	Crustacea	>3.36mg/l	2

n-butyl acetate

Endpoint	Test Duration (hr)	Species	Value	Source
LC50	96h	Fish	17-19mg/l	4
EC50	72h	Algae or other aquatic plants	246mg/l	2
EC50	48h	Crustacea	32mg/l	1
EC50(ECx)	96h	Fish	18mg/l	2

dipropylene glycol monomethyl ether acetate

Endpoint	Test Duration (hr)	Species	Value	Source
NOEC(ECx)	96h	Fish	62.5mg/l	2
EC50	72h	Algae or other aquatic plants	>100mg/l	2
LC50	96h	Fish	110.55mg/l	2
EC50	48h	Crustacea	1090mg/l	2

Legend: *Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 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*

On the basis of available evidence concerning either toxicity, persistence, potential to accumulate and or observed environmental fate and behaviour, the material may present a danger, immediate or long-term and /or delayed, to the structure and/ or functioning of natural ecosystems.
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.
For Propylene Glycol Ethers: log Kow's range from 0.309 for TPM to 1.523 for DPnB. Calculated BCFs range from 1.47 for DPnB to 3.16 for DPMA and TPM, indicating low bioaccumulation.
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.

Continued...

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
hexamethylene diisocyanate	LOW	LOW
hexamethylene diisocyanate polymer	HIGH	HIGH
isophorone diisocyanate	HIGH	HIGH
isophorone diisocyanate homopolymer	HIGH	HIGH
n-butyl acetate	LOW	LOW
dipropylene glycol monomethyl ether acetate	HIGH	HIGH

Bioaccumulative potential

Ingredient	Bioaccumulation
hexamethylene diisocyanate	LOW (LogKOW = 3.1956)
hexamethylene diisocyanate polymer	LOW (LogKOW = 7.5795)
isophorone diisocyanate	HIGH (LogKOW = 4.7519)
isophorone diisocyanate homopolymer	MEDIUM (LogKOW = 4.2608)
n-butyl acetate	LOW (BCF = 14)
dipropylene glycol monomethyl ether acetate	LOW (LogKOW = 0.6595)

Mobility in soil

Ingredient	Mobility
hexamethylene diisocyanate	LOW (KOC = 5864)
hexamethylene diisocyanate polymer	LOW (KOC = 18560000)
isophorone diisocyanate	LOW (KOC = 36450)
isophorone diisocyanate homopolymer	LOW (KOC = 19770)
n-butyl acetate	LOW (KOC = 20.86)
dipropylene glycol monomethyl ether acetate	LOW (KOC = 10)

SECTION 13 Disposal considerations

Waste treatment methods

Product / Packaging disposal	▸ Containers may still present a chemical hazard/ danger when empty. ▸ Return to supplier for reuse/ recycling if possible. Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. ▸ **DO NOT** allow wash water from cleaning or process equipment to enter drains. ▸ It may be necessary to collect all wash water for treatment before disposal. ▸ Recycle wherever possible. ▸ 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.

SECTION 14 Transport information

Labels Required

	
Marine Pollutant	NO

Shipping container and transport vehicle placarding and labeling may vary from the below information. Products that are regulated for transport will be packaged and marked as Dangerous Goods in Excepted Quantities according to US DOT, IATA and IMDG regulations. In case of reshipment, it is the responsibility of the shipper to determine the appropriate labels and markings in accordance with applicable transport regulations.

Land transport (DOT)

Continued...

UN number or ID number	1866
UN proper shipping name	Resin Solution, flammable
Transport hazard class(es)	Class: 3 Subsidiary risk: Not Applicable
Packing group	III
Environmental hazard	Not Applicable
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
Transport hazard class(es)	ICAO/IATA Class: 3 ICAO / IATA Subrisk: Not Applicable ERG Code: 3L
Packing group	III
Environmental hazard	Not Applicable
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
Transport hazard class(es)	IMDG Class: 3 IMDG Subrisk: Not Applicable
Packing group	III
Environmental hazard	Not Applicable
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
hexamethylene diisocyanate	Not Available
hexamethylene diisocyanate polymer	Not Available
N,N-dimethylcyclohexylamine/ CAPS/ hexamethylene diisocyanate blocked	Not Available
isophorone diisocyanate	Not Available
tridecanol ethoxylated, phosphated	Not Available
isophorone diisocyanate homopolymer	Not Available
n-butyl acetate	Not Available
dipropylene glycol monomethyl ether acetate	Not Available

Transport in bulk in accordance with the IGC Code

Product name	Ship Type

Continued...

Product name	Ship Type
hexamethylene diisocyanate	Not Available
hexamethylene diisocyanate polymer	Not Available
N,N-dimethylcyclohexylamine/ CAPS/ hexamethylene diisocyanate blocked	Not Available
isophorone diisocyanate	Not Available
tridecanol ethoxylated, phosphated	Not Available
isophorone diisocyanate homopolymer	Not Available
n-butyl acetate	Not Available
dipropylene glycol monomethyl ether acetate	Not Available

SECTION 15 Regulatory information

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

hexamethylene diisocyanate 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 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 EPCRA Section 313 Chemical List
US NIOSH Recommended Exposure Limits (RELs)
US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory
US TSCA New Chemical Exposure Limits (NCEL)
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 New Chemical Exposure Limits (NCEL)

N,N-dimethylcyclohexylamine/ CAPS/ hexamethylene diisocyanate blocked is found on the following regulatory lists

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

isophorone diisocyanate is found on the following regulatory lists

US - Massachusetts - Right To Know Listed Chemicals
US DOE Temporary Emergency Exposure Limits (TEELs)
US EPCRA Section 313 Chemical List
US NIOSH Recommended Exposure Limits (RELs)
US SARA Section 302 Extremely Hazardous Substances
US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

tridecanol ethoxylated, phosphated is found on the following regulatory lists

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

isophorone diisocyanate homopolymer is found on the following regulatory lists

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

n-butyl acetate is found on the following regulatory lists

US - Massachusetts - Right To Know Listed Chemicals
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 Section 4/12 (b) - Sunset Dates/Status

dipropylene glycol monomethyl ether acetate is found on the following regulatory lists

US - California Hazardous Air Pollutants Identified as Toxic Air Contaminants
US Clean Air Act - Hazardous Air Pollutants
US EPCRA Section 313 Chemical List
US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

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

Continued...

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

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

State Regulations

US. California Proposition 65

None listed

National Inventory Status

National Inventory	Status
Australia - AIIC / Australia Non-Industrial Use	Yes
Canada - DSL	Yes
Canada - NDSL	No (hexamethylene diisocyanate; N,N-dimethylcyclohexylamine/ CAPS/ hexamethylene diisocyanate blocked; isophorone diisocyanate; tridecanol ethoxylated, phosphated; isophorone diisocyanate homopolymer; n-butyl acetate; dipropylene glycol monomethyl ether acetate)
China - IECSC	No (N,N-dimethylcyclohexylamine/ CAPS/ hexamethylene diisocyanate blocked)
Europe - EINEC / ELINCS / NLP	No (N,N-dimethylcyclohexylamine/ CAPS/ hexamethylene diisocyanate blocked; tridecanol ethoxylated, phosphated; dipropylene glycol monomethyl ether acetate)
Japan - ENCS	No (hexamethylene diisocyanate polymer; N,N-dimethylcyclohexylamine/ CAPS/ hexamethylene diisocyanate blocked; isophorone diisocyanate homopolymer; dipropylene glycol monomethyl ether acetate)
Korea - KECI	Yes
New Zealand - NZIoC	Yes
Philippines - PICCS	Yes
USA - TSCA	Yes
Taiwan - TCSI	Yes
Mexico - INSQ	No (hexamethylene diisocyanate polymer; N,N-dimethylcyclohexylamine/ CAPS/ hexamethylene diisocyanate blocked; tridecanol ethoxylated, phosphated; isophorone diisocyanate homopolymer; dipropylene glycol monomethyl ether acetate)
Vietnam - NCI	Yes
Russia - FBEPH	No (N,N-dimethylcyclohexylamine/ CAPS/ hexamethylene diisocyanate blocked; isophorone diisocyanate homopolymer; dipropylene glycol monomethyl ether acetate)
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	04/27/2023
Initial Date	04/19/2023

CONTACT POINT

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

SDS Version Summary

Version	Date of Update	Sections Updated
2.4	04/27/2023	Toxicological information - Acute Health (inhaled), Hazards identification - Classification, Disposal considerations - Disposal, Exposure controls / personal protection - Engineering Control, Firefighting measures - Fire Fighter (fire/explosion hazard), Firefighting measures - Fire Fighter (fire fighting), Handling and storage - Handling Procedure, Composition / information on ingredients - Ingredients, Exposure controls / personal protection - Personal Protection (other), Accidental release measures - Spills (major), Handling and storage - Storage (storage requirement), Handling and storage - Storage (suitable container), Transport information - Transport

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.

Continued...

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

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end of SDS