

ICP Construction Inc.

Version No: 10.12

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

Issue Date: **08/17/2022** Print Date: **08/17/2022** S.GHS.USA.EN

SECTION 1 Identification

Product Identifier

Product name Polyaspartic 7500 'B' Low Odor	
Synonyms	Not Available
Proper shipping name	Combustible liquid, n.o.s. (contains dipropylene glycol monomethyl ether acetate)
Other means of identification	Not Available

Recommended use of the chemical and restrictions on use

Relevant identified uses High performance coating

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

Registered company name	ICP Construction Inc.	
Address	150 Dascomb Road Andover, MA 01810 United States	
Telephone	1-866-667-5119 1-978-623-9987	
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

 Vertice
 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)

 Image: Classification
 Serious Eye Damage/Eye Irritation Category 2A, Sensitisation (Respiratory) Category 1, Flammable Liquids Category 4, Sensitisation (Skin) Category 1

 Image: Classification
 Serious Eye Damage/Eye Irritation Category 2A, Sensitisation (Respiratory) Category 1, Flammable Liquids Category 4, Sensitisation (Skin)

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 Image: Classification
 Serious Eye Damage/Eye Irritation Category 2A, Sensitisation (Respiratory)

 Image: Classification
 Serious Eye Damage/Eye Irritation Category 2A, Sensitisation (Respiratory)

 Image: Classification
 Serious Eye Damage/Eye Irritation

 Image: Classification
 Serious Eye Damage/Eye Irritation

 Image: Class Serious Eye Irritation
 Serious Eye Irritation

H334	H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.	
H227	Combustible liquid.	
H317	May cause an allergic skin reaction.	

Hazard(s) not otherwise classified

Not Applicable

Precautionary statement(s) General

_	, , ,	
	P10	If medical advice is needed, have product container or label at hand.
	P10	2 Keep out of reach of children.
Р	Precautionary statement(s) Prevention	

P202	Do not handle until all safety

P202	Do not handle until all safety precautions have been read and understood.	
P210	P210 Keep away from heat, hot surface, sparks, open flames and other ignition sources. No smoking.	
P261 Avoid breathing dust/fumes/gas/mist/vapors/spray		
P264 Wash thoroughly after handling.		
P272 Contaminated work clothing should not be allowed out of the classroom.		
P280	P280 Wear protective gloves/protective clothing/eye protection/face protection.	
P284 In case of inadequate ventilation: Wear respiratory protection.		

Precautionary statement(s) Response

P304+P340	340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.	
P342+P316 IF Experiencing respiratory symptoms: Get emergency medical help immediately.		
P302+P352	P302+P352 IF ON SKIN: Wash with plenty of water. P333+P313 IF Skin irritation or rash occurs: Get medical advice/attention.	
P333+P313		
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337+P313 IF Eye irritation persists: Get medical advice/attention P362+P364 Take off contaminated clothing and wash it before reuse.		

Precautionary statement(s) Storage

Store in a well-ventilated place

Precautionary statement(s) Disposal

P501

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

Not Applicable

SECTION 3 Composition / information on ingredients

P403

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
28182-81-2	30-60	hexamethylene diisocyanate polymer
822-06-0	0.1-1	hexamethylene diisocyanate
88917-22-0*	30-60	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: Wash out immediately with fresh running water. Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. Seek medical attention without delay; if pain persists or recurs seek medical attention. Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	 If skin contact occurs: Immediately remove all contaminated clothing, including footwear. Flush skin and hair with running water (and soap if available). Seek medical attention in event of irritation.

Inhalation	 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.

Most important symptoms and effects, both acute and delayed

See Section 11

Indication of any immediate medical attention and special treatment needed

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.
- 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
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Special protective equipment and precautions for fire-fighters

Fire Fighting	
Fire/Explosion Hazard	 Combustible. Moderate fire hazard when exposed to heat or flame. Combustion products include: carbon dioxide (CO2) 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

	Avoid breathing vapours and contact with skin and eyes.
Major Spills	 Clear area of personnel and move upwind. Alert Fire Brigade and tell them location and nature of hazard. 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.

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

SECTION 7 Handling and storage

Precau	Precautions for safe handling			
	Safe handling	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.		

Conditions for safe storage, including any incompatibilities

Suitable container	
Storage incompatibility	 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	hexamethylene	Hexamethylene	0.005 ppm /	Not	0.020 (10-minute) ppm / 0.140	Not
Exposure Limits (RELs)	diisocyanate	diisocyanate	0.035 mg/m3	Available	(10-minute) mg/m3	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	0.018 ppm 0.2 ppm		3 ppm	
Ingredient	Original IDLH		Revised IDLH	Revised IDLH	
hexamethylene diisocyanate polymer	Not Available		Not Available		
hexamethylene diisocyanate	Not Available		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 polymer	E		≤ 0.1 ppm		
Notes:	Occupational exposure banding is a process of assigning chemicals into specific categories or bands based on a chemical's potency and the adverse health outcomes associated with exposure. The output of this process is an occupational exposure band (OEB), which corresponds to a				

 Exposure controls

 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.
 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.

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

Personal protection	
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. 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.

Respiratory protection

Full face respirator with supplied air.

- + Cartridge respirators should never be used for emergency ingress or in areas of unknown vapour concentrations or oxygen content.
- The wearer must be warned to leave the contaminated area immediately on detecting any odours through the respirator. The odour may indicate that the mask is not functioning properly, that the vapour concentration is too high, or that the mask is not properly fitted. Because of these limitations, only restricted use of cartridge respirators is considered appropriate.

Cartridge performance is affected by humidity. Cartridges should be changed after 2 hr of continuous use unless it is determined that the humidity is less than 75%, in which case, cartridges can be used for 4 hr. Used cartridges should be discarded daily, regardless of the length of time used

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

SECTION 9 Physical and chemical properties

Information on basic physical and chemical properties

Appearance	Moisture sensitive.		
Physical state	Liquid	Relative density (Water = 1)	Not Available
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)	86	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Combustible.	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%)	Not Available
Vapour density (Air = 1)	Not Available	VOC g/L	0

SECTION 10 Stability and reactivity

Reactivity	See section 7
Chemical stability	
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

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 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.
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 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.
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.
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. 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.

Polyaspartic 7500 'B' Low	ΤΟΧΙΟΙΤΥ	IRRITATION
Odor	Not Available	Not Available
	ΤΟΧΙΟΙΤΥ	IRRITATION
hexamethylene 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]	
	ΤΟΧΙΟΙΤΥ	IRRITATION
hexamethylene diisocyanate	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]

	ΤΟΧΙΟΙΤΥ	IRRITATION			
dipropylene glycol monomethyl ether acetate	Dermal (rabbit) LD50: >5000 mg/kg*[2]	Not Available			
monomethyr ether acetate	Oral (Rat) LD50; >5000 mg/kg* ^[2]				
Legend:	1. Value obtained from Europe ECHA Registered Su specified data extracted from RTECS - Register of T		ned from manufacturer's SDS. Unless otherwise		
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. 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.				
Polyaspartic 7500 'B' Low Odor & HEXAMETHYLENE DISOCYANATE & 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.				
Polyaspartic 7500 'B' Low Odor & HEXAMETHYLENE DIISOCYANATE POLYMER & HEXAMETHYLENE DIISOCYANATE	Allergic reactions involving the respiratory tract are upotential of the allergen and period of exposure ofter Attention should be paid to atopic diathesis, characte Exogenous allergic alveolitis is induced essentially b lymphocytes) may be involved. Such allergy is of the The following information refers to contact allergens Contact allergies quickly manifest themselves as cor Isocyanate vapours are irritating to the airways and consciousness and fluid in the lungs. Nervous syster anxiety, depression and paranoia.	n determine the severity of symptoms. prised by increased susceptibility to nase y allergen specific immune-complexes o delayed type with onset up to four hour as a group and may not be specific to th tact eczema, more rarely as urticaria or can cause their inflammation, with whee	I inflammation, asthma and eczema. f the IgG type; cell-mediated reactions (T s following exposure. is product. Quincke's oedema. zing, gasping, severe distress, even loss of		
Polyaspartic 7500 'B' Low Odor & 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				
HEXAMETHYLENE DIISOCYANATE POLYMER & HEXAMETHYLENE DIISOCYANATE	No significant acute toxicological data identified in lite	erature search.			
Acute Toxicity	×	Carcinogenicity	×		
Skin Irritation/Corrosion	×	Reproductivity	×		
Serious Eye Damage/Irritation	✓	STOT - Single Exposure	×		
Respiratory or Skin	✓	STOT - Repeated Exposure	×		
sensitisation					

SECTION 12 Ecological information

Toxicity

Polyaspartic 7500 'B' Low Odor	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available
hexamethylene diisocyanate polymer	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50	72h	Algae or other aquatic plants	>1000mg/l	Not Available
	EC50	48h	Crustacea	>100mg/l	Not Available
	EC50(ECx)	48h	Crustacea	>100mg/l	Not Available
	LC50	96h	Fish	>100mg/l	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
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
	EC50	48h	Crustacea	1090mg/l	2
	LC50	96h	Fish	110.55mg/l	2
Legend:	Ecotox database	IUCLID Toxicity Data 2. Europe ECHA Registere - Aquatic Toxicity Data 5. ECETOC Aquatic Haza on Data 8. Vendor Data	8	, ,	,

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. 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 polymer	HIGH	HIGH
hexamethylene diisocyanate	LOW	LOW
dipropylene glycol monomethyl ether acetate	нідн	HIGH

Bioaccumulative potential

Ingredient	Bioaccumulation
hexamethylene diisocyanate polymer	LOW (LogKOW = 7.5795)
hexamethylene diisocyanate	LOW (LogKOW = 3.1956)
dipropylene glycol monomethyl ether acetate	LOW (LogKOW = 0.6595)

Mobility in soil

Ingredient	Mobility
hexamethylene diisocyanate polymer	LOW (KOC = 18560000)
hexamethylene diisocyanate	LOW (KOC = 5864)
dipropylene glycol monomethyl ether acetate	LOW (KOC = 10)

SECTION 13 Disposal considerations

SECTION 14 Transport information

Labels Required	
Marine Pollutant	NO
Land transport (DOT)	
UN number	NA1993
UN proper shipping name	Combustible liquid, n.o.s. (contains dipropylene glycol monomethyl ether acetate)
Transport hazard class(es)	ClassCombSubriskNot Applicable
Packing group	

Environmental hazard	Not Applicable	
Special precautions for user	Hazard Label Special provisions	Not Applicable 148, IB3, T1, TP1

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

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

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

Not Applicable

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
dipropylene glycol monomethyl ether acetate	Not Available

Transport in bulk in accordance with the ICG Code

Product name	Ship Type
hexamethylene diisocyanate polymer	Not Available
hexamethylene diisocyanate	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 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 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)

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 TSCA New Chemical Exposure Limits (NCEL)

US TSCA Chemical Substance Inventory - Interim List of Active Substances

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

US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory US TSCA Chemical Substance Inventory - Interim List of Active Substances

Federal Regulations

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Section 311/312 hazard categories

Flammable (Gases, Aerosols, Liquids, or Solids)	Yes
Gas under pressure	No
Explosive	No
Self-heating	No
Pyrophoric (Liquid or Solid)	No
Pyrophoric Gas	No
Corrosive to metal	No
Oxidizer (Liquid, Solid or Gas)	No
Organic Peroxide	No
Self-reactive	No
In contact with water emits flammable gas	No
Combustible Dust	No
Carcinogenicity	No
Acute toxicity (any route of exposure)	No
Reproductive toxicity	No
Skin Corrosion or Irritation	No
Respiratory or Skin Sensitization	Yes

Serious eye damage or eye irritation	
Specific target organ toxicity (single or repeated exposure)	
Aspiration Hazard	No
Germ cell mutagenicity	
Simple Asphyxiant	
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		

State Regulations

US. California Proposition 65

None Reported

National Inventory Status

National Inventory	Status	
Australia - AIIC / Australia Non-Industrial Use	Yes	
Canada - DSL	Yes	
Canada - NDSL	No (hexamethylene diisocyanate; dipropylene glycol monomethyl ether acetate)	
China - IECSC	Yes	
Europe - EINEC / ELINCS / NLP	No (dipropylene glycol monomethyl ether acetate)	
Japan - ENCS	No (hexamethylene diisocyanate polymer; 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; dipropylene glycol monomethyl ether acetate)	
Vietnam - NCI	Yes	
Russia - FBEPH	No (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	08/17/2022
Initial Date	07/26/2019

CONTACT POINT

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

SDS Version Summary

Version	Date of Update	Sections Updated
9.12	08/17/2022	Acute Health (eye), Acute Health (inhaled), Acute Health (skin), Acute Health (swallowed), Advice to Doctor, Chronic Health, Classification, Environmental, Exposure Standard, Handling Procedure, Ingredients, Storage (storage incompatibility), Transport Information

Other information

Ingredients with multiple cas numbers

Name	CAS No	
hexamethylene diisocyanate polymer	28182-81-2, 53200-31-0, 1192214-73-5, 2005473-84-5, 35147-46-7, 67504-33-0, 824958-45-4, 909032-80-0	
hexamethylene diisocyanate	822-06-0, 1196968-38-3, 1199811-16-9, 133394-59-9, 141504-21-4, 1447694-90-7, 1674389-30-0, 1714093-54-5, 1799418-17-9, 243121-01-9, 280144-19-6, 53192-27-1, 57350-77-3, 63525-90-6, 66368-96-5, 824958-44-3, 88357-62-4	

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

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

Definitions and abbreviations

PC-TWA: Permissible Concentration-Time Weighted Average

PC-STEL: Permissible Concentration-Short Term Exposure Limit

IARC: International Agency for Research on Cancer ACGIH: American Conference of Governmental Industrial Hygienists

STEL: Short Term Exposure Limit TEEL: Temporary Emergency Exposure Limit。 IDLH: Immediately Dangerous to Life or Health Concentrations ES: Exposure Standard OSF: Odour Safety Factor NOAEL :No Observed Adverse Effect Level LOAEL: Lowest Observed Adverse Effect Level TLV: Threshold Limit Value LOD: Limit Of Detection OTV: Odour Threshold Value BCF: BioConcentration Factors BEI: Biological Exposure Index 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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