Printing date 08/17/2015 Reviewed on 08/17/2015

1 Identification

· Product identifier

· Trade name: <u>Ure Seal (Part A)</u>

· Article number: 150 A / 151A / 152A

· Details of the supplier of the safety data sheet

· Manufacturer/Supplier:

Innovative Concrete Technology Corporation

2410 McJunkin Road Lakeland FL 33803

• Information department: (863) 665-8787

· Emergency telephone number:

Chemtrec 1-800-424-9300, CCN 726066 or 1-703-527-3887 (collect calls accepted)

2 Hazard(s) identification

· Classification of the substance or mixture



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

Skin Sens. 1 H317 May cause an allergic skin reaction.

Eye Irrit. 2B H320 Causes eye irritation.

- · Label elements
- GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).
- · Hazard pictograms



GHS07

- · Signal word Warning
- · Hazard-determining components of labeling:

mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2Hisothiazol-3-one [EC no. 220-239-6] (3:1) mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-4-isothiazolin-3-one [EC no. 220-239-6] (3:1)

· Hazard statements

H315+H320 Causes skin and eye irritation.

H317 May cause an allergic skin reaction.

· Precautionary statements

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.

P261 Avoid breathing dust/fume/gas/mist/vapors/spray

P280 Wear protective gloves.

P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present

and easy to do. Continue rinsing.

P321 Specific treatment (see on this label).*P363* Wash contaminated clothing before reuse.

P501 Dispose of contents/container in accordance with local/regional/national/international

regulations.

(Contd. on page 2)

(Contd. of page 1)

Safety Data Sheet acc. to OSHA HCS

Printing date 08/17/2015 Reviewed on 08/17/2015

Trade name: Ure Seal (Part A)

· Classification system:

· NFPA ratings (scale 0 - 4)



Health = 2 Fire = 1Reactivity = 0

· HMIS-ratings (scale 0 - 4)



- · Other hazards
- · Results of PBT and vPvB assessment
- · **PBT**: Not applicable. · **vPvB**: Not applicable.

3 Composition/information on ingredients

- · Chemical characterization: Mixtures
- · Description: Mixture of the substances listed below with nonhazardous additions.

· Dangerous	· Dangerous components:		
52880-57-6	Anionic Polyacrylate	25-50%	
55965-84-9	mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2Hisothiazol-3-one [EC no. 220-239-6] (3:1) mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-4-isothiazolin-3-one [EC no. 220-239-6] (3:1)		

4 First-aid measures

- · Description of first aid measures
- · After inhalation:

Supply fresh air and to be sure call for a doctor.

In case of unconsciousness place patient stably in side position for transportation.

- · After skin contact: Immediately wash with water and soap and rinse thoroughly.
- · After eye contact:

Remove contact lenses if able to do so.

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

· After swallowing:

A person vomiting while lying on their back should be turned onto their side.

Do not induce vomiting; immediately call for medical help.

If symptoms persist consult doctor.

· Most important symptoms and effects, both acute and delayed

Allergic reactions

Nausea

Gastric or intestinal disorders

· Indication of any immediate medical attention and special treatment needed

Treat skin and mucous membrane with antihistamine and corticoid preparations.

USA

Printing date 08/17/2015 Reviewed on 08/17/2015

Trade name: Ure Seal (Part A)

(Contd. of page 2)

5 Fire-fighting measures

- · Extinguishing media
- · Suitable extinguishing agents:

CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

- · Special hazards arising from the substance or mixture No further relevant information available.
- · Advice for firefighters
- · Protective equipment: No special measures required.

6 Accidental release measures

- · Personal precautions, protective equipment and emergency procedures Not required.
- · Environmental precautions:

Dilute with plenty of water.

Do not allow to enter sewers/ surface or ground water.

· Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Ensure adequate ventilation.

· Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage

· Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

- · Information about protection against explosions and fires: No special measures required.
- · Conditions for safe storage, including any incompatibilities
- · Storage:
- · Requirements to be met by storerooms and receptacles: No special requirements.
- · Information about storage in one common storage facility:

Do not store together with oxidizing and acidic materials.

Store away from foodstuffs.

- · Further information about storage conditions: Keep receptacle tightly sealed.
- · Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

- · Additional information about design of technical systems: No further data; see item 7.
- · Control parameters
- · Components with limit values that require monitoring at the workplace:

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

- · Additional information: The lists that were valid during the creation were used as basis.
- · Exposure controls
- · Personal protective equipment:
- · General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.

(Contd. on page 4)

Printing date 08/17/2015 Reviewed on 08/17/2015

Trade name: Ure Seal (Part A)

(Contd. of page 3)

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes.

Avoid contact with the eyes and skin.

· Breathing equipment:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

· Protection of hands:



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· Material of gloves

Neoprene gloves

Nitrile rubber, NBR

PVC or PE gloves

Rubber gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product 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.

· Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· Not suitable are gloves made of the following materials:

Strong gloves

Leather gloves

· Eye protection:



Tightly sealed goggles

· Body protection: Apron

9 Physical and chemical properties

- · Information on basic physical and chemical properties
- · General Information
- · Appearance:

Form: Liquid
Color: White
Odor: Acrylic

· Odour threshold: Not determined.

· pH-value: Not determined.

· Change in condition

Melting point/Melting range: Undetermined.
Boiling point/Boiling range: 93 °C (199 °F)

• Flash point: $> 93 \, ^{\circ}C \, (> 199 \, ^{\circ}F)$

(Contd. on page 5)

Printing date 08/17/2015 Reviewed on 08/17/2015

Trade name: Ure Seal (Part A)

		(Contd. of page
· Flammability (solid, gaseous):	Not applicable.	
· Ignition temperature:		
Decomposition temperature:	Not determined.	
· Auto igniting:	Product is not selfigniting.	
· Danger of explosion:	Product does not present an explosion hazard.	
· Explosion limits:		
Lower:	Not determined.	
Upper:	Not determined.	
· Vapor pressure:	Not determined.	
Density at 20 °C (68 °F):	1.0 g/cm³ (8.345 lbs/gal)	
Relative density	Not determined.	
Vapour density	Not determined.	
Evaporation rate	Not determined.	
Solubility in / Miscibility with		
Water:	Fully miscible.	
Partition coefficient (n-octanol/wa	ter): Not determined.	
Viscosity:		
Dynamic:	Not determined.	
Kinematic:	Not determined.	
· Solvent content:		
Organic solvents:	0.0 %	
Water:	68.1 %	
Solids content:	29.0-31.0 %	
· Other information	No further relevant information available.	

10 Stability and reactivity

- · Reactivity
- · Chemical stability
- · Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- · Possibility of hazardous reactions

Reacts with Isocyanates.

Reacts with strong acids and oxidizing agents.

- · Conditions to avoid No further relevant information available.
- · Incompatible materials: No further relevant information available.
- · Hazardous decomposition products: Carbon monoxide and carbon dioxide

11 Toxicological information

- · Information on toxicological effects
- · Acute toxicity:
- · Primary irritant effect:
- · on the skin: Irritant to skin and mucous membranes.
- · on the eye: Irritating effect.
- · Sensitization: Sensitization possible through skin contact.

(Contd. on page 6)

Printing date 08/17/2015 Reviewed on 08/17/2015

Trade name: Ure Seal (Part A)

· Additional toxicological information:

(Contd. of page 5)

The product shows the following dangers according to internally approved calculation methods for preparations: Irritant

- · Carcinogenic categories
- · IARC (International Agency for Research on Cancer)

· NTP (National Toxicology Program)

no ingredient above de minimis level is listed

· OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

12 Ecological information

- · Toxicity
- · Aquatic toxicity: No further relevant information available.
- · Persistence and degradability No further relevant information available.
- · Bioaccumulative potential No further relevant information available.
- · Mobility in soil No further relevant information available.
- · Additional ecological information:
- · General notes:

Water hazard class 1 (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

- · Results of PBT and vPvB assessment
- · **PBT**: Not applicable.
- · vPvB: Not applicable.
- · Other adverse effects No further relevant information available.

13 Disposal considerations

- · Waste treatment methods
- · Recommendation:

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

- · Uncleaned packagings:
- · Recommendation: Disposal must be made according to official regulations.
- · Recommended cleansing agent: Water, if necessary with cleansing agents.

1/1	TOTAL	nort in	TOPMO	707
		port in		,,,,,,,,

· UN-Numbe	r
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 $\cdot DOT$ Not regulated

· UN proper shipping name

Not regulated

· Transport hazard class(es)

 $\cdot DOT$ Not applicable

(Contd. on page 7)

Printing date 08/17/2015 Reviewed on 08/17/2015

Trade name: Ure Seal (Part A)

		(Contd. of page 6)
· Packing group · DOT	Not applicable	
· Environmental hazards: · Marine pollutant:	No	
· Transport in bulk according to Annex MARPOL73/78 and the IBC Code	II of Not applicable.	
· UN ''Model Regulation'':	Not regulated for transport.	

15 Regulatory information

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

· Section	355	(extrem	elv haz	ardous	substance	es):

None of the ingredients is listed.

· Section 313 (Specific toxic chemical listings):

143-22-6 2-[2-(2-butoxyethoxy)ethoxy]ethanol

- · TSCA (Toxic Substances Control Act):
 - 52880-57-6 Anionic Polyacrylate
 - 29911-28-2 Dipropylene Glycol MonoN Butyl Ether (Glycol Ether DPnB)
 - 143-22-6 2-[2-(2-butoxyethoxy)ethoxy]ethanol
- 134180-76-0 Modified polyether polysiloxane
 - 9005-00-9 Poly(oxy-1,2-ethanediyl),a-octadecyl-w-hydroxy-
 - 141-43-5 2-aminoethanol
 - 7732-18-5 water, distilled, conductivity or of similar purity
- · Proposition 65
- · Chemicals known to cause cancer:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

· Chemicalsknown to cause reproductive toxicity for males.

None of the ingredients is listed.

· Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

- · Carcinogenic categories
- · EPA (Environmental Protection Agency)

None of the ingredients is listed.

· TLV (Threshold Limit Value established by ACGIH)

None of the ingredients is listed.

· NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

 $\cdot \textit{GHS label elements} \ \textit{The product is classified and labeled according to the Globally Harmonized System (GHS)}.$

(Contd. on page 8)

(Contd. of page 7)

Safety Data Sheet acc. to OSHA HCS

Printing date 08/17/2015 Reviewed on 08/17/2015

Trade name: Ure Seal (Part A)

· Hazard pictograms



· Signal word Warning

· Hazard-determining components of labeling:

mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2Hisothiazol-3-one [EC no. 220-239-6] (3:1) mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-4-isothiazolin-3-one [EC no. 220-239-6] (3:1)

· Hazard statements

H315+H320 Causes skin and eye irritation. H317 May cause an allergic skin reaction.

· Precautionary statements

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.

P261 Avoid breathing dust/fume/gas/mist/vapors/spray

P280 Wear protective gloves.

P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present

and easy to do. Continue rinsing.

P321 Specific treatment (see on this label).P363 Wash contaminated clothing before reuse.

P501 Dispose of contents/container in accordance with local/regional/national/international

regulations.

· Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· Date of preparation / last revision 08/17/2015 / -

· Abbreviations and acronyms:

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2

Eye Irrit. 2B: Serious eye damage/eye irritation, Hazard Category 2B

Skin Sens. 1: Sensitisation - Skin, Hazard Category 1

IISA -

Printing date 08/28/2015 Reviewed on 08/28/2015

1 Identification

· Product identifier

· Trade name: UreSeal (Part B 150)

· Article number: 150 Part B

· Details of the supplier of the safety data sheet

· Manufacturer/Supplier:

Innovative Concrete Technology Corporation

2410 McJunkin Road Lakeland FL 33803

· Information department: (863) 665-8787

· Emergency telephone number:

Chemtrec 1-800-424-9300, CCN 726066 or 1-703-527-3887 (collect calls accepted)

2 Hazard(s) identification

· Classification of the substance or mixture



GHS06 Skull and crossbones

Acute Tox. 3 H331 Toxic if inhaled.



GHS08 Health hazard

Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2A H319 Causes serious eye irritation.

Skin Sens. 1 H317 May cause an allergic skin reaction.

STOT SE 3 H335 May cause respiratory irritation.

- · Label elements
- GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).
- · Hazard pictograms





GHS06

GHS08

- · Signal word Danger
- · Hazard-determining components of labeling:

Homopolymer of Hexamethylene Diisocyanate Hydrophilic Polyisocyanate based on Hexamethylene Diisocyanate

hexamethylene-di-isocyanate

cyclohexyldimethylamine

(Contd. on page 2)

Printing date 08/28/2015 Reviewed on 08/28/2015

Trade name: UreSeal (Part B 150)

(Contd. of page 1)

· Hazard statements

H302 Harmful if swallowed.

H331 Toxic if inhaled.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H317 May cause an allergic skin reaction.

H335 May cause respiratory irritation.

· Precautionary statements

If medical advice is needed, have product container or label at hand. P101

P102 Keep out of reach of children. P103 Read label before use. P284 Wear respiratory protection.

Avoid breathing dust/fume/gas/mist/vapors/spray P261

P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present

and easy to do. Continue rinsing.

P321 Specific treatment (see on this label).

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international

- · Classification system:
- · NFPA ratings (scale 0 4)



Health = 2Fire = 0Reactivity = 0

· HMIS-ratings (scale 0 - 4)



Health = *2Fire = 0

- · Other hazards
- · Results of PBT and vPvB assessment
- · **PBT**: Not applicable.
- · vPvB: Not applicable.

3 Composition/information on ingredients

- · Chemical characterization: Mixtures
- · Description: Mixture of the substances listed below with nonhazardous additions.

	· Dangerous components:			
	28182-81-2 Homopolymer of Hexamethylene Diisocyanate 50-1		50-100%	
666723-27-9 Hydrophilic Polyisocyanate based on Hexamethylene Diisocyanate		10-25%		
98-94-2 cyclohexyldimethylamine <		≤ 2.5%		
822-06-0 hexamethylene-di-isocyanate		≤ 2.5%		

USA

Printing date 08/28/2015 Reviewed on 08/28/2015

Trade name: UreSeal (Part B 150)

(Contd. of page 2)

4 First-aid measures

· Description of first aid measures

· General information:

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

· After inhalation:

Supply fresh air or oxygen; call for doctor.

In case of unconsciousness place patient stably in side position for transportation.

Move to an area free from further exposure. Extreme asthmatic reactions that may occur in sensitized persons can be life threatening. GET MEDICAL ATTENTION IMMEDIATELY! Administer oxygen or artificial respiration as needed. Asthmatic symptoms may develop and may be immediate or delayed up to several hours.

· After skin contact: Immediately wash with water and soap and rinse thoroughly.

· After eve contact:

Remove contact lenses if able to do so.

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

· After swallowing:

A person vomiting while lying on their back should be turned onto their side.

Do not induce vomiting; immediately call for medical help.

Immediately call a doctor.

· Most important symptoms and effects, both acute and delayed

Coughing

Nausea

Cramp

Gastric or intestinal disorders

Breathing difficulty

Asthma attacks

Allergic reactions

Delayed: Symptoms affecting the respiratory tract can also occur several hours after overexposure.

· Information for doctor:

Eyes: Stain for evidence of corneal injury. If cornea is burned, instill antibiotic/steroid preparation as needed. Workplace vapors could producereversiblecorneal epithealial edema impairing vision. Skin: This compound is a skin sensitizer. Treat symptomatically as for contact dermatitis or thermal burn. Ingestion: Treat symptomatically. There is no specific antidote. Inducing vomiting is contraindicated because of the irritating nature of the compound. Inhalation: Treatment is sentially symptomatic. An individual having a dermal or pulmonary sensitization reaction to this material should be removed fro further exposure to any isocyanate.

· Danger

Danger of impaired breathing.

Danger of pulmonary edema.

· Indication of any immediate medical attention and special treatment needed

Later observation for pneumonia and pulmonary edema.

Treat skin and mucous membrane with antihistamine and corticoid preparations.

Medical supervision for at least 48 hours.

Severe allergic skin reaction, bronchial spasms and anaphylactic shock are possible.

5 Fire-fighting measures

- · Extinguishing media
- · Suitable extinguishing agents:

CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

- · For safety reasons unsuitable extinguishing agents: Water with full jet
- · Special hazards arising from the substance or mixture

Formation of toxic gases is possible during heating or in case of fire.

(Contd. on page 4)

Printing date 08/28/2015 Reviewed on 08/28/2015

Trade name: UreSeal (Part B 150)

(Contd. of page 3)

Exposure to heated diisocyanate can be extremely dangerous.

· Advice for firefighters

Avoid contact with product. Decontaminate equipment and protective clothing prior to re-use. During a fire, isocyanate vapors and other irritating, highlytoxic gases may be generated by thermal decomposition or combustion.

· Protective equipment:

Wear self-contained respiratory protective device.

Wear fully protective suit.

Do not inhale explosion gases or combustion gases.

· Additional information Use cold-water spray to cool off fire-exposed continers to minimize risk of rupture.

6 Accidental release measures

· Personal precautions, protective equipment and emergency procedures

Implement site emergency response plan. Evacuate non-emergency personnel. The magnitude of the evacuation depends upon the quantity released, site conditions, and the ambient temperature. Isolate the area and prevent access of unauthorized personnel. Notify management. Call CHEMTREC at 1-800-424-9300 for assistance and advice.

· Environmental precautions:

Do not allow product to reach sewage system or any water course.

Inform respective authorities in case of seepage into water course or sewage system.

Do not allow to enter sewers/ surface or ground water.

· Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

Use an isocyanate decontaminating solution such as avilable from Colorimetric Laboratories, Inc. (CLI): 1-847-803-3737.

Note: Always wear proper PPE when cleaning up an isocynate spill and using a neutralization solution. It may take two or more applications of the neutralization solution to decontaminate the surface. Check for residual surface contamination using a surface wipe method such as the CLI Swype R pad.

· Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage

· Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

- · Information about protection against explosions and fires: No special measures required.
- · Conditions for safe storage, including any incompatibilities

Storage temperature:

Minimum: 7°C (44.6°F)

Maximum:50 ℃ (122 F)

- · Storage:
- · Requirements to be met by storerooms and receptacles: Store in a cool location.
- Information about storage in one common storage facility: Store away from foodstuffs.
- · Further information about storage conditions: Keep receptacle tightly sealed.

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Trade name: UreSeal (Part B 150)

· Specific end use(s) No further relevant information available.

(Contd. of page 4)

8 Exposure controls/personal protection

- · Additional information about design of technical systems: No further data; see item 7.
- · Control parameters
- · Components with limit values that require monitoring at the workplace:

822-06-0 hexamethylene-di-isocyanate

REL Long-term value: 0.035 mg/m³, 0.005 ppm Ceiling limit value: 0.14* mg/m³, 0.02* ppm

*10-min

TLV Long-term value: 0.034 mg/m³, 0.005 ppm

NIC-BEI

- · Additional information: The lists that were valid during the creation were used as basis.
- · Exposure controls
- · Personal protective equipment:
- · General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes.

Avoid contact with the eyes and skin.

· Breathing equipment:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

· Protection of hands:



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· Material of gloves

Neoprene gloves

Butyl rubber, BR

Nitrile rubber, NBR

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product 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.

· Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· Not suitable are gloves made of the following materials:

Natural rubber, NR

Strong gloves

Leather gloves

(Contd. on page 6)

(Contd. of page 5)

Safety Data Sheet acc. to OSHA HCS

Reviewed on 08/28/2015 Printing date 08/28/2015

Trade name: UreSeal (Part B 150)

· Eye protection:



Tightly sealed goggles

- · Body protection: Impervious protective clothing
- · Limitation and supervision of exposure into the environment

Medical Surveillance:

All applicants who are assigned to an isocyanate work area should undergo a pre-placement medical evaluation. A history of eczema or respiratory allergies such as hay fever, are possible reasons for medical exclusion from isocyanate areas. Applicants who have a history of adult asthma should be restricted from work with isocyanates. Applicants with a history of prior isocyanate sensitization from further work with isocyanates. A comprehensive annual medical surveillance program should be instituted for all employees who arew potentially exposed to diisocyanates. Once a worker has been diagnosed as sensitized to any isocyanate, no further exposure can be permitted.

Additional Protective measures:

Emergency showers and eye wash stations should be avilable. Educate employees in the safe use and handling of this product. Follow all label instructions.

Information on basic physical and o	chemical properties	
General Information	mement properties	
Appearance:		
Form:	Liquid	
Color:	Light yellow	
Odor:	Light	
Odour threshold:	Not determined.	
pH-value:	Not determined.	
Change in condition		
Melting point/Melting range:	Undetermined.	
Boiling point/Boiling range:	Decomposition	
Flash point:	185 °C (365 °F) (DIN EN 22719)	
Flammability (solid, gaseous):	Not applicable.	
Ignition temperature:		
Decomposition temperature:	181 °C (358 °F) ((357°F))	
Auto igniting:	445°(833°F)	
Danger of explosion:	Product does not present an explosion hazard.	
Explosion limits:		
Lower:	Not determined.	
Upper:	Not determined.	
Vapor pressure at 20 °C (68 °F):	5.2X10_9mmHg ((68°F))	
Density at 20 °C (68 °F):	$1.15 \text{ g/cm}^3 (9.597 \text{ lbs/gal}) (68 \text{ F})$	
Relative density	Not determined.	
Vapour density	Not determined.	
Evaporation rate	Not determined.	

Printing date 08/28/2015 Reviewed on 08/28/2015

Trade name: UreSeal (Part B 150)

		(Contd. of page
· Solubility in / Miscibility with		
Water:	Not miscible or difficult to mix.	
Partition coefficient (n-octano	ol/water): Not determined.	
· Viscosity:		
Dynamic:	Not determined.	
Kinematic:	Not determined.	
· Solvent content:		
Organic solvents:	0.0 %	
Solids content:	98.0 %	
· Other information	No further relevant information available.	

10 Stability and reactivity

- · Reactivity
- · Chemical stability
- · Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- · Possibility of hazardous reactions

Reacts with powdered metals.

Reacts with strong oxidizing agents.

Decomposes with water, acids and alkalis.

Reacts with alcohols, amines, aqueous acids and alkalis.

Reacts with copper and copper alloys.

- · Conditions to avoid No further relevant information available.
- · Incompatible materials: No further relevant information available.
- · Hazardous decomposition products:

Poisonous gases/vapors

Isocyanate

Hydrogen cyanide (prussic acid)

Nitrogen oxides

Carbon monoxide and carbon dioxide

Dense black smoke

11 Toxicological information

- · Information on toxicological effects
- · Acute toxicity:

· LD/LC5	0 valu	es that are relevant for classification:
		methylene-di-isocyanate
Oral	LD50	738 mg/kg (rat)
Dermal	LD50	593 mg/kg (rat)

- · Primary irritant effect:
- · on the skin: Irritant to skin and mucous membranes.
- · on the eye: Irritating effect.
- · Sensitization:

May cause skin irritation with symptoms of reddening, itchin g and swelling. Can cause sensitization. Persons previously sensitizedcan experience allergic skin reactionwith symptoms of reddening, itching, swelling, and rash. Cured material is difficult to remove.

Sensitization possible through inhalation.

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Sensitization possible through skin contact.

· Additional toxicological information:

The product shows the following dangers according to internally approved calculation methods for preparations: Harmful

Irritant

- · Carcinogenic categories
- · IARC (International Agency for Research on Cancer)

1

· NTP (National Toxicology Program)

no ingredient above de minimis level is listed

· OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

12 Ecological information

- · Toxicity
- · Aquatic toxicity: No further relevant information available.
- · Persistence and degradability No further relevant information available.
- · Bioaccumulative potential No further relevant information available.
- · Mobility in soil No further relevant information available.
- · Ecotoxical effects:
- · Remark: Harmful to fish
- · Additional ecological information:
- · General notes:

Water hazard class 2 (Self-assessment): hazardous for water

Do not allow product to reach ground water, water course or sewage system.

Danger to drinking water if even small quantities leak into the ground.

Harmful to aquatic organisms

- · Results of PBT and vPvB assessment
- · **PBT**: Not applicable.
- · vPvB: Not applicable.
- · Other adverse effects No further relevant information available.

13 Disposal considerations

- · Waste treatment methods
- · Recommendation:

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

- · Uncleaned packagings:
- Recommendation: Disposal must be made according to official regulations.

14 Transport information

- · UN-Number
- · **DOT** Not regulated
- · UN proper shipping name
- \cdot **DOT** Not regulated

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	(Contd. of page
· Transport hazard class(es)	
\cdot DOT	Not applicable
· Packing group	
· DOT	Not applicable
· Environmental hazards:	
· Marine pollutant:	No
· Transport in bulk according to Annex	II of
MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· DOT	When in individual containers of less than the product R
	(Reportable Quantity), this material ships as non-regulated.
	For quantities > Product RQ, Land Transport per DOT require Class 9, UN/NA number 3082, PG III.
· Quantity limitations	RSPA/DOT Regulated Components:
2 3	Hexamethylene-1,6 Diisocyanate
	Reportable Quantity: 9074 Kg (20005 lb)
· IMDG	Not regulated
· IATA	Not regulated
· UN ''Model Regulation'':	Not regulated

15 Regulatory information

- · Safety, health and environmental regulations/legislation specific for the substance or mixture
- · Sara
- · Section 355 (extremely hazardous substances):

None of the ingredients is listed.

· Section 313 (Specific toxic chemical listings):

822-06-0 hexamethylene-di-isocyanate

· TSCA (Toxic Substances Control Act):

All ingredients are listed.

- · Proposition 65
- · Chemicals known to cause cancer:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

· Chemicalsknown to cause reproductive toxicity for males.

None of the ingredients is listed.

· Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

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· Carcinogenic categories

· EPA (Environmental Protection Agency)

None of the ingredients is listed.

· TLV (Threshold Limit Value established by ACGIH)

None of the ingredients is listed.

· NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

- · GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).
- · Hazard pictograms





GHS06

S06 GHS0

- · Signal word Danger
- · Hazard-determining components of labeling:

Homopolymer of Hexamethylene Diisocyanate

Hydrophilic Polyisocyanate based on Hexamethylene Diisocyanate

hexamethylene-di-isocyanate cyclohexyldimethylamine

· Hazard statements

H302 Harmful if swallowed.

H331 Toxic if inhaled.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H317 May cause an allergic skin reaction.

H335 May cause respiratory irritation.

· Precautionary statements

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.
P284 Wear respiratory protection.

Avoid breathing dust/fume/gas/mist/vapors/spray

P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present

and easy to do. Continue rinsing.

Specific treatment (see on this label).

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international

regulations.

· Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

P321

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- · Date of preparation / last revision 08/28/2015 / -
- · Abbreviations and acronyms:

ACGIH: American Conference of Governmental Industrial Hygienists EINECS: European Inventory of Existing Commercial Chemical Substances

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ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA) HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

Acute Tox. 4: Acute toxicity, Hazard Category 4

Acute Tox. 3: Acute toxicity, Hazard Category 3

Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2

Eye Irrit. 2A: Serious eye damage/eye irritation, Hazard Category 2A

Resp. Sens. 1: Sensitisation - Respirat., Hazard Category 1

Skin Sens. 1: Sensitisation - Skin, Hazard Category 1

STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

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USA