



# Poly 501 B Satin/Matte

## ICP Building Solutions Group

Version No: 12.15.10.9  
Safety Data Sheet according to OSHA HazCom Standard (2012) requirements

Issue Date: 03/30/2021  
Print Date: 08/20/2021  
S.GHS.USA.EN

### SECTION 1 Identification

#### Product Identifier

|                               |  |
|-------------------------------|--|
| Product name                  | Poly 501 B Satin/Matte                               |
| Synonyms                      | Not Available  |
| Proper shipping name          | Resin Solution, flammable (contains n-butyl acetate) |
| 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 | ICP Building Solutions Group                           |
| Address                 | 4565 W Watkins Street Phoenix AZ 85043 United States   |
| Telephone               | 623-435-2277   |
| Fax                     | Not Available  |
| Website                 | <a href="http://www.icpgroup.com">www.icpgroup.com</a> |
| Email                   | sds@icpgroup.com                                       |

#### Emergency phone number

|                                   |                |
|-----------------------------------|----------------|
| Association / Organisation        | ChemTel        |
| Emergency telephone numbers       | 1-800-255-3924 |
| Other emergency telephone numbers | 1-813-248-0585 |

### SECTION 2 Hazard(s) identification

#### Classification of the substance or mixture

NFPA 704 diamond



Note: The hazard category numbers found in GHS classification in section 2 of this SDSs are NOT to be used to fill in the NFPA 704 diamond. Blue = Health Red = Fire Yellow = Reactivity White = Special (Oxidizer or water reactive substances)

|                |  |
|----------------|--|
| Classification | Flammable Liquids Category 3, Serious Eye Damage/Eye Irritation Category 2A, Sensitisation (Respiratory) Category 1, Acute Toxicity (Inhalation) Category 4, Specific Target Organ Toxicity - Single Exposure (Respiratory Tract Irritation) Category 3, 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)

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

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|      |  |
|------|--|
| H334 | May cause allergy or asthma symptoms or breathing difficulties if inhaled. |
| H332 | Harmful if inhaled.  |
| H335 | May cause respiratory irritation.  |
| 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) Prevention**

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

**Precautionary statement(s) Response**

|                |  |
|----------------|--|
| P304+P340      | IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.                                 |
| P310           | Immediately call a POISON CENTER or doctor/physician.  |
| P303+P361+P353 | IF ON SKIN (or hair) Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.                        |
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |

**Precautionary statement(s) Storage**

|           |  |
|-----------|--|
| P403+P235 | Store in a well-ventilated place. Keep cool. |
| P405      | Store locked up.                             |

**Precautionary statement(s) Disposal**

|      |  |
|------|--|
| P501 | Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation. |
|------|--|

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

See section below for composition of Mixtures

**Mixtures**

| CAS No      | %[weight] | Name   |
|-------------|-----------|--|
| 822-06-0    | <1        | <u>hexamethylene diisocyanate</u>  |
| 28182-81-2  | 60-75     | <u>hexamethylene diisocyanate polymer</u>                                    |
| 666723-27-9 | 5-15      | <u>N,N-dimethylcyclohexylamine/ CAPS/ hexamethylene diisocyanate blocked</u> |
| 9046-01-9   | 1-5       | <u>tridecanol ethoxylated, phosphated</u>                                    |
| 53880-05-0  | 5-10      | <u>isophorone diisocyanate homopolymer</u>                                   |
| 123-86-4    | 1-5       | <u>n-butyl acetate</u>   |
| 34590-94-8  | 1-5       | <u>dipropylene glycol monomethyl ether</u>                                   |

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

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

|                     |  |
|---------------------|--|
| <b>Eye Contact</b>  | <p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none"> <li>▶ Wash out immediately with fresh running water.</li> <li>▶ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.</li> <li>▶ Seek medical attention without delay; if pain persists or recurs seek medical attention.</li> <li>▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.</li> </ul>                                      |
| <b>Skin Contact</b> | <p>If skin contact occurs:</p> <ul style="list-style-type: none"> <li>▶ Immediately remove all contaminated clothing, including footwear.</li> <li>▶ Flush skin and hair with running water (and soap if available).</li> <li>▶ Seek medical attention in event of irritation.</li> </ul>  |
| <b>Inhalation</b>   | <ul style="list-style-type: none"> <li>▶ If fumes or combustion products are inhaled remove from contaminated area.</li> <li>▶ Lay patient down. Keep warm and rested.</li> <li>▶ Prosthesis such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.</li> <li>▶ Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.</li> <li>▶ Transport to hospital, or doctor, without delay.</li> </ul> |

Continued...

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|                  |   |
|------------------|---|
|                  | 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.   |
| <b>Ingestion</b> | <ul style="list-style-type: none"> <li>▶ <b>If swallowed do NOT induce vomiting.</b></li> <li>▶ If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.</li> <li>▶ Observe the patient carefully.</li> <li>▶ Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.</li> <li>▶ Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.</li> <li>▶ Seek medical advice.</li> <li>▶ If spontaneous vomiting appears imminent or occurs, hold patient's head down, lower than their hips to help avoid possible aspiration of vomitus.</li> </ul> |

**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*

For sub-chronic and chronic exposures to isocyanates:

- ▶ This material may be a potent pulmonary sensitiser which causes bronchospasm even in patients without prior airway hyperreactivity.
- ▶ Clinical symptoms of exposure involve mucosal irritation of respiratory and gastrointestinal tracts.
- ▶ Conjunctival irritation, skin inflammation (erythema, pain vesiculation) and gastrointestinal disturbances occur soon after exposure.
- ▶ Pulmonary symptoms include cough, burning, substernal pain and dyspnoea.
- ▶ Some cross-sensitivity occurs between different isocyanates.
- ▶ Noncardiogenic pulmonary oedema and bronchospasm are the most serious consequences of exposure. Markedly symptomatic patients should receive oxygen, ventilatory support and an intravenous line.
- ▶ Treatment for asthma includes inhaled sympathomimetics (epinephrine [adrenalin], terbutaline) and steroids.
- ▶ Activated charcoal (1 g/kg) and a cathartic (sorbitol, magnesium citrate) may be useful for ingestion.
- ▶ Mydriatics, systemic analgesics and topical antibiotics (Sulamyd) may be used for corneal abrasions.
- ▶ There is no effective therapy for sensitised workers.

[Ellenhorn and Barceloux; Medical Toxicology]

**NOTE:** Isocyanates cause airway restriction in naive individuals with the degree of response dependant on the concentration and duration of exposure. They induce smooth muscle contraction which leads to bronchoconstrictive episodes. Acute changes in lung function, such as decreased FEV1, may not represent sensitivity.

[Karol &amp; Jin, Frontiers in Molecular Toxicology, pp 56-61, 1992]

Personnel who work with isocyanates, isocyanate prepolymers or polyisocyanates should have a pre-placement medical examination and periodic examinations thereafter, including a pulmonary function test. Anyone with a medical history of chronic respiratory disease, asthmatic or bronchial attacks, indications of allergic responses, recurrent eczema or sensitisation conditions of the skin should not handle or work with isocyanates. Anyone who develops chronic respiratory distress when working with isocyanates should be removed from exposure and examined by a physician. Further exposure must be avoided if a sensitivity to isocyanates or polyisocyanates has developed.

**SECTION 5 Fire-fighting measures****Extinguishing media**

- ▶ Small quantities of water in contact with hot liquid may react violently with generation of a large volume of rapidly expanding hot sticky semi-solid foam.
- ▶ Presents additional hazard when fire fighting in a confined space.
- ▶ Cooling with flooding quantities of water reduces this risk.
- ▶ Alcohol stable foam.
- ▶ Dry chemical powder.
- ▶ BCF (where regulations permit).

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

Continued...

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|                             |  |
|-----------------------------|--|
| <b>Fire Incompatibility</b> | <ul style="list-style-type: none"> <li>▶ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result</li> </ul> |
|-----------------------------|--|

**Special protective equipment and precautions for fire-fighters**

|                              |  |
|------------------------------|--|
| <b>Fire Fighting</b>         | <ul style="list-style-type: none"> <li>▶ Alert Fire Brigade and tell them location and nature of hazard.</li> <li>▶ May be violently or explosively reactive.</li> <li>▶ Wear breathing apparatus plus protective gloves.</li> </ul>   |
| <b>Fire/Explosion Hazard</b> | <ul style="list-style-type: none"> <li>▶ Liquid and vapour are flammable.</li> <li>▶ Moderate fire hazard when exposed to heat or flame.</li> <li>▶ Vapour forms an explosive mixture with air.</li> </ul> <p>Combustion products include:<br/>carbon dioxide (CO<sub>2</sub>)<br/>carbon monoxide (CO)<br/>isocyanates<br/>hydrogen cyanide<br/>and minor amounts of<br/>nitrogen oxides (NO<sub>x</sub>)<br/>sulfur oxides (SO<sub>x</sub>)<br/>other pyrolysis products typical of burning organic material.</p> <p>When heated at high temperatures many isocyanates decompose rapidly generating a vapour which pressurises containers, possibly to the point of rupture. Release of toxic and/or flammable isocyanate vapours may then occur</p> <ul style="list-style-type: none"> <li>▶ Burns with acrid black smoke.</li> </ul> |

**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**

|                     |  |
|---------------------|--|
| <b>Minor Spills</b> | <p>Environmental hazard - contain spillage.</p> <ul style="list-style-type: none"> <li>▶ Remove all ignition sources.</li> <li>▶ Clean up all spills immediately.</li> <li>▶ Avoid breathing vapours and contact with skin and eyes.</li> </ul>  |
| <b>Major Spills</b> | <p>Environmental hazard - contain spillage.</p> <ul style="list-style-type: none"> <li>▶ Liquid Isocyanates and high isocyanate vapour concentrations will penetrate seals on self contained breathing apparatus - SCBA should be used inside encapsulating suit where this exposure may occur.</li> </ul> <p>For isocyanate spills of less than 40 litres (2 m<sup>2</sup>):</p> <ul style="list-style-type: none"> <li>▶ Evacuate area from everybody not dealing with the emergency, keep them upwind and prevent further access, remove ignition sources and, if inside building, ventilate area as well as possible.</li> <li>▶ Notify supervision and others as necessary.</li> <li>▶ Put on personal protective equipment (suitable respiratory protection, face and eye protection, protective suit, gloves and impermeable boots).</li> <li>▶ Avoid contamination with water, alkalies and detergent solutions.</li> <li>▶ Material reacts with water and generates gas, pressurises containers with even drum rupture resulting.</li> <li>▶ <b>DO NOT reseal container if contamination is suspected.</b></li> <li>▶ Clear area of personnel and move upwind.</li> <li>▶ Alert Fire Brigade and tell them location and nature of hazard.</li> <li>▶ May be violently or explosively reactive.</li> </ul> |

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

**SECTION 7 Handling and storage****Precautions for safe handling**

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

**Conditions for safe storage, including any incompatibilities**

|                           |  |
|---------------------------|--|
| <b>Suitable container</b> | <ul style="list-style-type: none"> <li>▶ Packing as supplied by manufacturer.</li> <li>▶ Plastic containers may only be used if approved for flammable liquid.</li> <li>▶ Check that containers are clearly labelled and free from leaks.</li> </ul> |
|---------------------------|--|

Continued...

## Poly 501 B Satin/Matte

|                                |  |
|--------------------------------|--|
|                                | <ul style="list-style-type: none"> <li>▶ For low viscosity materials (i) : Drums and jerry cans must be of the non-removable head type. (ii) : Where a can is to be used as an inner package, the can must have a screwed enclosure.</li> <li>▶ For materials with a viscosity of at least 2680 cSt.</li> </ul>  |
| <b>Storage incompatibility</b> | <ul style="list-style-type: none"> <li>▶ Esters react with acids to liberate heat along with alcohols and acids.</li> <li>▶ Strong oxidising acids may cause a vigorous reaction with esters that is sufficiently exothermic to ignite the reaction products.</li> <li>▶ Heat is also generated by the interaction of esters with caustic solutions.</li> </ul> <p>-Avoid reaction with water, alcohols and detergent solutions. Isocyanates are electrophiles, and as such they are reactive toward a variety of nucleophiles including alcohols, amines, and even water. Upon treatment with an alcohol, an isocyanate forms a urethane linkage.</p> <ul style="list-style-type: none"> <li>▶ A range of exothermic decomposition energies for isocyanates is given as 20-30 kJ/mol.</li> <li>▶ The relationship between energy of decomposition and processing hazards has been the subject of discussion; it is suggested that values of energy released per unit of mass, rather than on a molar basis (J/g) be used in the assessment.</li> <li>▶ For example, in "open vessel processes" (with man-hole size openings, in an industrial setting), substances with exothermic decomposition energies below 500 J/g are unlikely to present a danger, whilst those in "closed vessel processes" (opening is a safety valve or bursting disk) present some danger where the decomposition energy exceeds 150 J/g.</li> </ul> |

**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 ACGIH Threshold Limit Values (TLV)                | hexamethylene diisocyanate          | Hexamethylene diisocyanate      | 0.005 ppm               | Not Available       | Not Available                                   | BEI              |
| US OSHA Permissible Exposure Limits (PELs) Table Z-1 | 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    |
| US ACGIH Threshold Limit Values (TLV)                | n-butyl acetate                     | Butyl acetates, all isomers     | 50 ppm                  | 150 ppm             | Not Available                                   | Not Available    |
| US OSHA Permissible Exposure Limits (PELs) Table Z-1 | dipropylene glycol monomethyl ether | Dipropylene glycol methyl ether | 100 ppm / 600 mg/m3     | Not Available       | Not Available                                   | Skin designation |
| US NIOSH Recommended Exposure Limits (RELs)          | dipropylene glycol monomethyl ether | Dipropylene glycol methyl ether | 100 ppm / 600 mg/m3     | 900 mg/m3 / 150 ppm | Not Available                                   | [skin]           |

**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     |
| n-butyl acetate                     | Not Available | Not Available | Not Available |
| dipropylene glycol monomethyl ether | 150 ppm       | 1700* ppm     | 9900** ppm    |

| 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 |
| 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                                   | 600 ppm       | Not Available |

**Occupational Exposure Banding**

| Ingredient  | Occupational Exposure Band Rating | Occupational Exposure Band Limit |
|---|-----------------------------------|----------------------------------|
| hexamethylene diisocyanate polymer                                    | E                                 | ≤ 0.1 ppm                        |
| N,N-dimethylcyclohexylamine/ CAPS/ hexamethylene diisocyanate blocked | E                                 | ≤ 0.1 ppm                        |


**Notes:**

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

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| Ingredient                          | Occupational Exposure Band Rating   | Occupational Exposure Band Limit |
|-------------------------------------|---|----------------------------------|
| isophorone diisocyanate homopolymer | D   | > 0.1 to ≤ 1 ppm                 |
| <b>Notes:</b>                       | <i>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.</i> |                                  |

## Exposure controls

|   |   |
|---|---|
| <b>Appropriate engineering controls</b> | <p>Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.</p> <p>The basic types of engineering controls are:</p> <p>Process controls which involve changing the way a job activity or process is done to reduce the risk.</p> <ul style="list-style-type: none"> <li>▶ All processes in which isocyanates are used should be enclosed wherever possible.</li> <li>▶ Total enclosure, accompanied by good general ventilation, should be used to keep atmospheric concentrations below the relevant exposure standards.</li> <li>▶ If total enclosure of the process is not feasible, local exhaust ventilation may be necessary.</li> </ul>  |
| <b>Personal protection</b>              |    |
| <b>Eye and face protection</b>          | <ul style="list-style-type: none"> <li>▶ Safety glasses with side shields.</li> <li>▶ Chemical goggles.</li> <li>▶ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants.</li> </ul>   |
| <b>Skin protection</b>                  | See Hand protection below   |
| <b>Hands/feet protection</b>            | <p><b>NOTE:</b></p> <ul style="list-style-type: none"> <li>▶ The material may produce skin sensitisation in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact.</li> <li>▶ Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed.</li> </ul> <p>For esters:</p> <ul style="list-style-type: none"> <li>▶ Do NOT use natural rubber, butyl rubber, EPDM or polystyrene-containing materials.</li> </ul> <p>The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.</p> <p>The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice.</p> <ul style="list-style-type: none"> <li>▶ Do NOT wear natural rubber (latex gloves).</li> <li>▶ Isocyanate resistant materials include Teflon, Viton, nitrile rubber and some PVA gloves.</li> <li>▶ Protective gloves and overalls should be worn as specified in the appropriate national standard.</li> <li>▶ Contaminated garments should be removed promptly and should not be re-used until they have been decontaminated.</li> <li>▶ <b>DO NOT use skin cream unless necessary and then use only minimum amount.</b></li> <li>▶ Isocyanate vapour may be absorbed into skin cream and this increases hazard.</li> </ul> |
| <b>Body protection</b>                  | See Other protection below  |
| <b>Other protection</b>                 | <p>All employees working with isocyanates must be informed of the hazards from exposure to the contaminant and the precautions necessary to prevent damage to their health. They should be made aware of the need to carry out their work so that as little contamination as possible is produced, and of the importance of the proper use of all safeguards against exposure to themselves and their fellow workers. Adequate training, both in the proper execution of the task and in the use of all associated engineering controls, as well as of any personal protective equipment, is essential.</p> <ul style="list-style-type: none"> <li>▶ Overalls.</li> <li>▶ PVC Apron.</li> <li>▶ PVC protective suit may be required if exposure severe.</li> <li>▶ Some plastic personal protective equipment (PPE) (e.g. gloves, aprons, overshoes) are not recommended as they may produce static electricity.</li> <li>▶ For large scale or continuous use wear tight-weave non-static clothing (no metallic fasteners, cuffs or pockets).</li> <li>▶ Non sparking safety or conductive footwear should be considered.</li> </ul>  |

## Respiratory protection

Full face respirator with supplied air.

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

For spraying or operations which might generate aerosols:

Full face respirator with supplied air.

- ▶ In certain circumstances, personal protection of the individual employee is necessary. Personal protective devices should be regarded as being supplementary to substitution and engineering control and should not be used in preference to them as they do nothing to eliminate the hazard.
- ▶ However, in some situations, minimising exposure to isocyanates by enclosure and ventilation is not possible, and occupational exposure standards may be exceeded, particularly during on-site mixing of paints, spray-painting, foaming and maintenance of machine and ventilation systems. In these situations, air-line respirators or self-contained breathing apparatus complying with the appropriate national standard must be used.
- ▶ **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.

## Poly 501 B Satin/Matte

## SECTION 9 Physical and chemical properties

## Information on basic physical and chemical properties

|   |                     |  |               |
|---|---------------------|--|---------------|
| <b>Appearance</b>                                   | Moisture sensitive. |  |               |
| <b>Physical state</b>                               | Liquid              | <b>Relative density (Water = 1)</b>            | Not Available |
| <b>Odour</b>  | Not Available       | <b>Partition coefficient n-octanol / water</b> | Not Available |
| <b>Odour threshold</b>                              | Not Available       | <b>Auto-ignition temperature (°C)</b>          | Not Available |
| <b>pH (as supplied)</b>                             | Not Available       | <b>Decomposition temperature</b>               | Not Available |
| <b>Melting point / freezing point (°C)</b>          | Not Available       | <b>Viscosity (cSt)</b>                         | Not Available |
| <b>Initial boiling point and boiling range (°C)</b> | Not Available       | <b>Molecular weight (g/mol)</b>                | Not Available |
| <b>Flash point (°C)</b>                             | 40                  | <b>Taste</b>                                   | Not Available |
| <b>Evaporation rate</b>                             | Not Available       | <b>Explosive properties</b>                    | Not Available |
| <b>Flammability</b>                                 | Flammable.          | <b>Oxidising properties</b>                    | Not Available |
| <b>Upper Explosive Limit (%)</b>                    | Not Available       | <b>Surface Tension (dyn/cm or mN/m)</b>        | Not Available |
| <b>Lower Explosive Limit (%)</b>                    | Not Available       | <b>Volatile Component (%vol)</b>               | Not Available |
| <b>Vapour pressure (kPa)</b>                        | Not Available       | <b>Gas group</b>                               | Not Available |
| <b>Solubility in water</b>                          | Immiscible          | <b>pH as a solution (%)</b>                    | Not Available |
| <b>Vapour density (Air = 1)</b>                     | Not Available       | <b>VOC g/L</b>                                 | Not Available |

## SECTION 10 Stability and reactivity

|   |  |
|---|--|
| <b>Reactivity</b>                         | See section 7  |
| <b>Chemical stability</b>                 | <ul style="list-style-type: none"> <li>▶ Unstable in the presence of incompatible materials.</li> <li>▶ Product is considered stable.</li> <li>▶ Hazardous polymerisation will not occur.</li> </ul> |
| <b>Possibility of hazardous reactions</b> | See section 7  |
| <b>Conditions to avoid</b>                | See section 7  |
| <b>Incompatible materials</b>             | See section 7  |
| <b>Hazardous decomposition products</b>   | See section 5  |

## SECTION 11 Toxicological information

## Information on toxicological effects

|                     |   |
|---------------------|---|
| <b>Inhaled</b>      | <p>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.</p> <p>The vapour/mist may be highly irritating to the upper respiratory tract and lungs; the response may be severe enough to produce bronchitis and pulmonary oedema. Possible neurological symptoms arising from isocyanate exposure include headache, insomnia, euphoria, ataxia, anxiety neurosis, depression and paranoia. Gastrointestinal disturbances are characterised by nausea and vomiting.</p>   |
| <b>Ingestion</b>    | 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.   |
| <b>Skin Contact</b> | <p>The material may accentuate any pre-existing dermatitis condition</p> <p>Skin contact with the material may damage the health of the individual; systemic effects may result following absorption.</p> <p>Open cuts, abraded or irritated skin should not be exposed to this material</p> <p>Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.</p> <p>The material may cause moderate inflammation of the skin either following direct contact or after a delay of some time. Repeated exposure can cause contact dermatitis which is characterised by redness, swelling and blistering.</p> |
| <b>Eye</b>          | 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.  |

## Poly 501 B Satin/Matte

|   |  |   |
|---|--|---|
| <b>Chronic</b>  | <p>Long-term exposure to respiratory irritants may result in airways disease, involving difficulty breathing and related whole-body problems. Inhaling this product is more likely to cause a sensitisation reaction in some persons compared to the general population. 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. This product contains a polymer with a functional group considered to be of high concern. Isothiocyanates may cause hypersensitivity of the skin and airways.</p> <p>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.</p> <p>Persons with a history of asthma or other respiratory problems or are known to be sensitised, should not be engaged in any work involving the handling of isocyanates.</p> <p>The chemistry of reaction of isocyanates, as evidenced by MDI, in biological milieu is such that in the event of a true exposure of small MDI doses to the mouth, reactions will commence at once with biological macromolecules in the buccal region and will continue along the digestive tract prior to reaching the stomach. Reaction products will be a variety of polyureas and macromolecular conjugates with for example mucus, proteins and cell components.</p> <p>Animal testing shows that polymeric MDI can damage the nasal cavities and lungs, causing inflammation and increased cell growth.</p> |   |
|   | <b>CONTAINS</b> free organic isocyanate. Mixing and application requires special precautions and use of personal protective gear [APMF]  |   |
| <b>Poly 501 B Satin/Matte</b>   | <b>TOXICITY</b>  | <b>IRRITATION</b>   |
|   | Not Available  | Not Available   |
| <b>hexamethylene diisocyanate</b>   | <b>TOXICITY</b>  | <b>IRRITATION</b>   |
|   | dermal (rat) LD50: >525 mg/kg <sup>[1]</sup>   | Eye: adverse effect observed (irritating) <sup>[1]</sup>        |
|   | Inhalation(Rat) LC50; 0.124 mg/L4h <sup>[1]</sup>  | Skin: adverse effect observed (corrosive) <sup>[1]</sup>        |
|   | Oral(Mouse) LD50; 350 mg/kg <sup>[2]</sup>   | Skin: adverse effect observed (irritating) <sup>[1]</sup>       |
| <b>hexamethylene diisocyanate polymer</b>                                   | <b>TOXICITY</b>  | <b>IRRITATION</b>   |
|   | Dermal (rabbit) LD50: >2000 mg/kg <sup>[1]</sup>   | Skin (rabbit): 500 mg - moderate                                |
|   | Inhalation(Rat) LC50; 0.052-0.5 mg/L4h <sup>[1]</sup>  |   |
|   | Oral(Rat) LD50; >2000 mg/kg <sup>[1]</sup>   |   |
| <b>N,N-dimethylcyclohexylamine/CAPS/ hexamethylene diisocyanate blocked</b> | <b>TOXICITY</b>  | <b>IRRITATION</b>   |
|   | Inhalation(Rat) LC50; 0.158 mg/L4h <sup>[2]</sup>  | Not Available   |
|   | Oral(Rat) LD50; >5000 mg/kg <sup>[2]</sup>   |   |
| <b>tridecanol ethoxylated, phosphated</b>                                   | <b>TOXICITY</b>  | <b>IRRITATION</b>   |
|   | Oral(Rat) LD50; >2000 mg/kg <sup>[2]</sup>   | Not Available   |
| <b>isophorone diisocyanate homopolymer</b>                                  | <b>TOXICITY</b>  | <b>IRRITATION</b>   |
|   | Inhalation(Rat) LC50; 3.538 mg/L4h <sup>[1]</sup>  | Not Available   |
|   | Oral(Rat) LD50; 5000 mg/kg <sup>[1]</sup>  |   |
| <b>n-butyl acetate</b>  | <b>TOXICITY</b>  | <b>IRRITATION</b>   |
|   | Dermal (rabbit) LD50: >14100 mg/kg <sup>[2]</sup>  | Eye ( human): 300 mg  |
|   | Inhalation(Rat) LC50; 0.74 mg/l4h <sup>[2]</sup>   | Eye (rabbit): 20 mg (open)-SEVERE                               |
|   | Oral(Rat) LD50; >3200 mg/kg <sup>[2]</sup>   | Eye (rabbit): 20 mg/24h - moderate                              |
|   |  | Eye: no adverse effect observed (not irritating) <sup>[1]</sup> |
|   |  | Skin (rabbit): 500 mg/24h-moderate                              |
| <b>dipropylene glycol monomethyl ether</b>                                  | <b>TOXICITY</b>  | <b>IRRITATION</b>   |
|   | Dermal (rabbit) LD50: 9500 mg/kg <sup>[2]</sup>  | Eye (human): 8 mg - mild  |
|   | Oral(Rat) LD50; >5000 mg/kg <sup>[1]</sup>   | Eye (rabbit): 500 mg/24hr - mild                                |
|   |  | Skin (rabbit): 238 mg - mild                                    |
|   |  | Skin (rabbit): 500 mg (open)-mild                               |
| <b>Legend:</b>  | 1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. * Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances  |   |

|                                   |   |
|-----------------------------------|---|
| <b>HEXAMETHYLENE DIISOCYANATE</b> | <p>Aromatic and aliphatic diisocyanates may cause airway toxicity and skin sensitization. Monomers and prepolymers exhibit similar respiratory effect. Of the several members of diisocyanates tested on experimental animals by inhalation and oral exposure, some caused cancer while others produced a harmless outcome.</p> <p>For 1,6-hexamethylene diisocyanate (HDI):</p> <p>Exposures to HDI are often associated with exposures to its prepolymers, one of which is widely used as a hardener in automobile and airplane paints. Both the prepolymers and the native substance may cause asthma. HDI is corrosive to the skin and eye, and will sensitise the skin and airway.</p> |
|-----------------------------------|---|



## Poly 501 B Satin/Matte

|  |   |
|--|---|
| HEXAMETHYLENE DIISOCYANATE POLYMER   | * Bayer SDS ** Ardex SDS<br>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   |
| TRIDECANOL ETHOXYLATED, PHOSPHATED   | Stephan SDS<br>For alkyl alcohol alkoxyphosphate (AAAPD) surfactants (alkyl or alcohol ether phosphates):<br>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.<br>Commercial products may contain excess phosphoric acid and may produce serious eye irritation (R41) or may even be classified as corrosive, acidic substances.<br>Subchronic toxicity: Animal testing shows that these substances have relatively low chronic toxicity.<br>For acid mists, aerosols, vapours<br>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. Mucous secretion may protect the cells of the airway from direct exposure to inhaled acidic mists (which also protects the stomach lining from the hydrochloric acid secreted there).<br>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.<br>Animal testing reveals that whole the pure, non-oxidised surfactant is non-sensitizing, many of the oxidation products are sensitizers. The oxidation products also cause irritation. |
| 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  | For propylene glycol ethers (PGEs):<br>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).<br>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. In the ethylene series, metabolism of the terminal hydroxyl group produces and alkoxyacetic acid.<br>The material may be irritating to the eye, with prolonged contact causing inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.   |
| Poly 501 B Satin/Matte & HEXAMETHYLENE DIISOCYANATE & N,N-DIMETHYLCYCLOHEXYLAMINE/ CAPS/ HEXAMETHYLENE DIISOCYANATE BLOCKED & TRIDECANOL ETHOXYLATED, PHOSPHATED & DIPROPYLENE GLYCOL MONOMETHYL ETHER | Asthma-like symptoms may continue for months or even years after exposure to the material ends. This may be due to a non-allergic condition known as reactive airways dysfunction syndrome (RADS) which can occur after exposure to high levels of highly irritating compound. Main criteria for diagnosing RADS include the absence of previous airways disease in a non-atopic individual, with sudden onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant.   |
| Poly 501 B Satin/Matte & HEXAMETHYLENE DIISOCYANATE & HEXAMETHYLENE DIISOCYANATE POLYMER & N,N-DIMETHYLCYCLOHEXYLAMINE/ CAPS/ HEXAMETHYLENE DIISOCYANATE BLOCKED                                       | Allergic reactions involving the respiratory tract are usually due to interactions between IgE antibodies and allergens and occur rapidly. Allergic potential of the allergen and period of exposure often determine the severity of symptoms. Some people may be genetically more prone than others, and exposure to other irritants may aggravate symptoms.<br>Attention should be paid to atopic diathesis, characterised by increased susceptibility to nasal inflammation, asthma and eczema.<br>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.  |
| Poly 501 B Satin/Matte & HEXAMETHYLENE DIISOCYANATE & HEXAMETHYLENE DIISOCYANATE POLYMER & N,N-DIMETHYLCYCLOHEXYLAMINE/ CAPS/ HEXAMETHYLENE DIISOCYANATE BLOCKED & ISOPHORONE DIISOCYANATE HOMOPOLYMER | The following information refers to contact allergens as a group and may not be specific to this product.<br>Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type. Other allergic skin reactions, e.g. contact urticaria, involve antibody-mediated immune reactions.<br>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.  |
| Poly 501 B Satin/Matte & 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<br>Oral acute toxicity studies have been reported for 51 of the 67 esters of aliphatic acyclic primary alcohols and aliphatic linear saturated carboxylic acids. The very low oral acute toxicity of this group of esters is demonstrated by oral LD50 values greater than 1850 mg/kg bw<br>Genotoxicity studies have been performed in vitro using the following esters of aliphatic acyclic primary alcohols and aliphatic linear saturated carboxylic acids: methyl acetate, butyl acetate, butyl stearate and the structurally related isoamyl formate and demonstrates that these substances are not genotoxic.<br>The JEFCA Committee concluded that the substances in this group would not present safety concerns at the current levels of intake the esters of aliphatic acyclic primary alcohols and aliphatic linear saturated carboxylic acids are generally used as flavouring substances up to average maximum levels of 200 mg/kg.   |
| 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 POLYMER & N-BUTYL ACETATE & DIPROPYLENE GLYCOL MONOMETHYL ETHER   | 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  | ✗ |

## Poly 501 B Satin/Matte

|                                   |   |                          |   |
|-----------------------------------|---|--------------------------|---|
| 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

| Poly 501 B Satin/Matte   | Endpoint  | Test Duration (hr)            | Species                       | Value         | Source        |
|--|---|-------------------------------|-------------------------------|---------------|---------------|
|  | 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  | 72h                           | Algae or other aquatic plants | >1000mg/l     | 2             |
|  | LC50  | 96h                           | Fish                          | 8.9mg/l       | 2             |
| NOEC(ECx)  | 72h   | Algae or other aquatic plants | 50mg/l                        | 2             |               |
| N,N-dimethylcyclohexylamine/<br>CAPS/ hexamethylene diisocyanate blocked | Endpoint  | Test Duration (hr)            | Species                       | Value         | Source        |
|  | Not Available   | Not Available                 | Not Available                 | Not Available | Not Available |
| tridecanol ethoxylated,<br>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        |
|  | EC50(ECx)   | 96h                           | Fish                          | 18mg/l        | 2             |
|  | EC50  | 72h                           | Algae or other aquatic plants | 246mg/l       | 2             |
|  | LC50  | 96h                           | Fish                          | 18mg/l        | 2             |
| EC50   | 48h   | Crustacea                     | 32mg/l                        | 1             |               |
| dipropylene glycol monomethyl ether                                      | Endpoint  | Test Duration (hr)            | Species                       | Value         | Source        |
|  | EC50  | 72h                           | Algae or other aquatic plants | >969mg/l      | 2             |
|  | LC50  | 96h                           | Fish                          | >1000mg/l     | 2             |
|  | EC50  | 48h                           | Crustacea                     | 1930mg/l      | 2             |
|  | NOEC(ECx)   | 528h                          | Crustacea                     | >=0.5mg/l     | 2             |
| EC50   | 96h   | Algae or other aquatic plants | >969mg/l                      | 2             |               |
| <b>Legend:</b>   | Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 (QSAR) - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data |                               |                               |               |               |

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.

Wastes resulting from use of the product must be disposed of on site or at approved waste sites.

for polyisocyanates:

Polyisocyanates are not readily biodegradable. However, due to other elimination mechanisms (hydrolysis, adsorption), long retention times in water are not to be expected. The resulting polyurea is more or less inert and, due to its molecular size, not bioavailable.

For Isocyanate Monomers:

Environmental Fate: Isocyanates, (di- and polyfunctional isocyanates), are commonly used to make various polymers, such as polyurethanes. Polyurethanes find significant application in the manufacture of rigid and flexible foams. They are also used in the production of adhesives, elastomers, and coatings.

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

## Persistence and degradability

Continued...

## Poly 501 B Satin/Matte

| Ingredient                          | Persistence: Water/Soil | Persistence: Air |
|-------------------------------------|-------------------------|------------------|
| hexamethylene diisocyanate          | LOW                     | LOW              |
| hexamethylene diisocyanate polymer  | HIGH                    | HIGH             |
| isophorone diisocyanate homopolymer | HIGH                    | HIGH             |
| n-butyl acetate                     | LOW                     | LOW              |
| dipropylene glycol monomethyl ether | HIGH                    | HIGH             |

## Bioaccumulative potential

| Ingredient                          | Bioaccumulation          |
|-------------------------------------|--------------------------|
| hexamethylene diisocyanate          | LOW (LogKOW = 3.1956)    |
| hexamethylene diisocyanate polymer  | LOW (LogKOW = 7.5795)    |
| isophorone diisocyanate homopolymer | MEDIUM (LogKOW = 4.2608) |
| n-butyl acetate                     | LOW (BCF = 14)           |
| dipropylene glycol monomethyl ether | LOW (BCF = 100)          |

## Mobility in soil

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


## SECTION 13 Disposal considerations

## Waste treatment methods

|                              |   |
|------------------------------|---|
| Product / Packaging disposal | <ul style="list-style-type: none"> <li>▶ Containers may still present a chemical hazard/ danger when empty.</li> <li>▶ Return to supplier for reuse/ recycling if possible.</li> </ul> <p>Otherwise:</p> <ul style="list-style-type: none"> <li>▶ If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill.</li> </ul> <p>Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked.</p> <ul style="list-style-type: none"> <li>▶ <b>DO NOT allow wash water from cleaning or process equipment to enter drains.</b></li> <li>▶ It may be necessary to collect all wash water for treatment before disposal.</li> <li>▶ In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.</li> <li>▶ Recycle wherever possible.</li> <li>▶ Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified.</li> <li>▶ Dispose of by: burial in a land-fill specifically licensed to accept chemical and / or pharmaceutical wastes or Incineration in a licensed apparatus (after admixture with suitable combustible material).</li> </ul> |
|------------------------------|---|

## SECTION 14 Transport information

## Labels Required

|                  |   |
|------------------|---|
|                  |  |
| Marine Pollutant | NO  |

## Land transport (DOT)

|                            |  |
|----------------------------|--|
| UN number                  | 1866   |
| UN proper shipping name    | Resin Solution, flammable (contains n-butyl acetate) |
| Transport hazard class(es) | Class   3  |
|                            | Subrisk   Not Applicable                             |
| Packing group              | III  |

## Poly 501 B Satin/Matte

|                                     |                    |                       |
|-------------------------------------|--------------------|-----------------------|
| <b>Environmental hazard</b>         | Not Applicable     |                       |
| <b>Special precautions for user</b> | Hazard Label       | 3                     |
|                                     | Special provisions | B1, B52, IB3, T2, TP1 |

## Air transport (ICAO-IATA / DGR)

|                                     |   |                |
|-------------------------------------|---|----------------|
| <b>UN number</b>                    | 1866  |                |
| <b>UN proper shipping name</b>      | Resin solution flammable (contains n-butyl acetate)       |                |
| <b>Transport hazard class(es)</b>   | ICAO/IATA Class   | 3              |
|                                     | ICAO / IATA Subrisk                                       | Not Applicable |
|                                     | ERG Code  | 3L             |
| <b>Packing group</b>                | III   |                |
| <b>Environmental hazard</b>         | Not Applicable  |                |
| <b>Special precautions for user</b> | 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)

|                                     |   |                |
|-------------------------------------|---|----------------|
| <b>UN number</b>                    | 1866  |                |
| <b>UN proper shipping name</b>      | RESIN SOLUTION flammable (contains n-butyl acetate) |                |
| <b>Transport hazard class(es)</b>   | IMDG Class  | 3              |
|                                     | IMDG Subrisk  | Not Applicable |
| <b>Packing group</b>                | III   |                |
| <b>Environmental hazard</b>         | Not Applicable                                      |                |
| <b>Special precautions for user</b> | 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/<br>CAPS/ hexamethylene<br>diisocyanate blocked | Not Available |
| tridecanol ethoxylated,<br>phosphated                                       | Not Available |
| isophorone diisocyanate<br>homopolymer                                      | Not Available |
| n-butyl acetate   | Not Available |
| dipropylene glycol monomethyl<br>ether                                      | Not Available |

## Transport in bulk in accordance with the ICG Code

| Product name  | Ship Type     |
|---|---------------|
| hexamethylene diisocyanate  | Not Available |
| hexamethylene diisocyanate<br>polymer                                       | Not Available |
| N,N-dimethylcyclohexylamine/<br>CAPS/ hexamethylene<br>diisocyanate blocked | Not Available |
| tridecanol ethoxylated,<br>phosphated                                       | Not Available |

## Poly 501 B Satin/Matte

| Product name                        | Ship Type     |
|-------------------------------------|---------------|
| isophorone diisocyanate homopolymer | Not Available |
| n-butyl acetate                     | Not Available |
| dipropylene glycol monomethyl ether | 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 ACGIH Threshold Limit Values (TLV)  
 US ATSDR Minimal Risk Levels for Hazardous Substances (MRLs)  
 US Clean Air Act - Hazardous Air Pollutants  
 US DOE Temporary Emergency Exposure Limits (TEELs)  
 US EPA Integrated Risk Information System (IRIS)

US 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

## hexamethylene diisocyanate polymer is found on the following regulatory lists

US DOE Temporary Emergency Exposure Limits (TEELs)  
 US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

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

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

US List of Active Substances Exempt from the TSCA Inventory Notifications (Active-Inactive) Rule

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

## tridecanol ethoxylated, phosphated is found on the following regulatory lists

US List of Active Substances Exempt from the TSCA Inventory Notifications (Active-Inactive) Rule

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

## isophorone diisocyanate homopolymer is found on the following regulatory lists

US List of Active Substances Exempt from the TSCA Inventory Notifications (Active-Inactive) Rule

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

## n-butyl acetate is found on the following regulatory lists

US ACGIH Threshold Limit Values (TLV)  
 US CWA (Clean Water Act) - List of Hazardous Substances  
 US DOE Temporary Emergency Exposure Limits (TEELs)  
 US NIOSH Recommended Exposure Limits (RELs)

US OSHA Permissible Exposure Limits (PELs) Table Z-1  
 US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory  
 US TSCA Chemical Substance Inventory - Interim List of Active Substances  
 US TSCA Section 4/12 (b) - Sunset Dates/Status

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

US - California Hazardous Air Pollutants Identified as Toxic Air Contaminants  
 US ACGIH Threshold Limit Values (TLV) - Notice of Intended Changes  
 US Clean Air Act - Hazardous Air Pollutants  
 US DOE Temporary Emergency Exposure Limits (TEELs)  
 US EPCRA Section 313 Chemical List  
 US List of Active Substances Exempt from the TSCA Inventory Notifications (Active-Inactive) Rule

US NIOSH Recommended Exposure Limits (RELs)  
 US OSHA Permissible Exposure Limits (PELs) Table Z-1  
 US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory  
 US TSCA Chemical Substance Inventory - Interim List of Active Substances  
 US TSCA Section 4/12 (b) - Sunset Dates/Status

## 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)          | Yes |
| Reproductive toxicity                           | No  |
| Skin Corrosion or Irritation                    | Yes |
| Respiratory or Skin Sensitization               | Yes |
| Serious eye damage or eye irritation            | Yes |

Continued...

## Poly 501 B Satin/Matte

|  |    |
|--|----|
| 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 Reported

## National Inventory Status

| National Inventory                               | Status  |
|--|---|
| Australia - AIIIC / Australia Non-Industrial Use | Yes   |
| Canada - DSL                                     | Yes   |
| Canada - NDSL                                    | No (hexamethylene diisocyanate; N,N-dimethylcyclohexylamine/ CAPS/ hexamethylene diisocyanate blocked; tridecanol ethoxylated, phosphated; isophorone diisocyanate homopolymer; n-butyl acetate; dipropylene glycol monomethyl ether) |
| 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)  |
| Japan - ENCS                                     | No (hexamethylene diisocyanate polymer; N,N-dimethylcyclohexylamine/ CAPS/ hexamethylene diisocyanate blocked; tridecanol ethoxylated, phosphated; isophorone diisocyanate homopolymer)   |
| 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)   |
| Vietnam - NCI                                    | Yes   |
| Russia - FBEPH                                   | No (N,N-dimethylcyclohexylamine/ CAPS/ hexamethylene diisocyanate blocked; isophorone diisocyanate homopolymer)   |
| <b>Legend:</b>                                   | Yes = All CAS declared ingredients are on the inventory<br>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

|                      |            |
|----------------------|------------|
| <b>Revision Date</b> | 03/30/2021 |
| <b>Initial Date</b>  | 08/20/2019 |

## CONTACT POINT

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

## SDS Version Summary

| Version   | Date of Update | Sections Updated  |
|-----------|----------------|-------------------|
| 11.15.2.1 | 03/30/2021     | Ingredients       |
| 11.15.3.1 | 05/10/2021     | Regulation Change |
| 11.15.4.1 | 05/24/2021     | Regulation Change |
| 11.15.4.2 | 05/30/2021     | Template Change   |
| 11.15.4.3 | 06/04/2021     | Template Change   |
| 11.15.4.4 | 06/05/2021     | Template Change   |
| 11.15.4.5 | 06/09/2021     | Template Change   |
| 11.15.4.6 | 06/11/2021     | Template Change   |
| 11.15.4.7 | 06/15/2021     | Template Change   |
| 11.15.4.8 | 07/05/2021     | Template Change   |
| 11.15.5.8 | 07/14/2021     | Regulation Change |
| 11.15.6.8 | 07/15/2021     | Regulation Change |
| 11.15.6.9 | 08/01/2021     | Template Change   |
| 11.15.7.9 | 08/02/2021     | Regulation Change |
| 11.15.8.9 | 08/05/2021     | Regulation Change |
| 11.15.9.9 | 08/09/2021     | Regulation Change |

Continued...

| Version    | Date of Update | Sections Updated  |
|------------|----------------|-------------------|
| 11.15.10.9 | 08/16/2021     | Regulation Change |

#### Other information

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

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

#### Definitions and abbreviations

PC—TWA: Permissible Concentration-Time Weighted Average  
 PC—STEL: Permissible Concentration-Short Term Exposure Limit  
 IARC: International Agency for Research on Cancer  
 ACGIH: American Conference of Governmental Industrial Hygienists  
 STEL: Short Term Exposure Limit  
 TEEL: Temporary Emergency Exposure Limit.  
 IDLH: Immediately Dangerous to Life or Health Concentrations  
 ES: Exposure Standard  
 OSF: Odour Safety Factor  
 NOAEL :No Observed Adverse Effect Level  
 LOAEL: Lowest Observed Adverse Effect Level  
 TLV: Threshold Limit Value  
 LOD: Limit Of Detection  
 OTV: Odour Threshold Value  
 BCF: BioConcentration Factors  
 BEI: Biological Exposure Index  
 AIIC: Australian Inventory of Industrial Chemicals  
 DSL: Domestic Substances List  
 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  
 TCST: 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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