1- COMMERCIAL NAME : PX 5210 Isocyanate

Do not handle this material until the manufacturer's safety precautions have been read and understood! Regulations require that all employees be educated & trained on the Material Safety Data Sheets for all products with which they come in contact.

2- COMPOSITION/INFORMATION ON INGREDIENTS :

<table>
<thead>
<tr>
<th>CHEMICAL NAME</th>
<th>C.A.S</th>
<th>QTY%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Dicyclohexylmethane-4,4’ Diisocyanate</td>
<td>5124-30-1</td>
<td>60-85</td>
</tr>
<tr>
<td>2. Polyurethane Prepolymer</td>
<td>proprietary</td>
<td>15-25</td>
</tr>
<tr>
<td>3. N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

3- HAZARDS IDENTIFICATION :

A health surveillance/monitoring program is recommended when working with Isocyanates!
- Harmful by inhalation; possible risk of occupational asthma.
- Irritating to eyes, respiratory system, and skin.
- May cause sensitization by inhalation and skin contact. May aggravate skin allergies, eczema, asthma, and/or respiratory disorders.

4- FIRST AID MEASURES :

- Where a serious accident occurs, seek medical advice immediately.
- Change any soiled clothing immediately.
- In case of eye contact : Open eyelids as far as possible and flush with large quantities of water for at least fifteen minutes. Seek immediate medical attention.
- In case of skin contact : Physically remove the product and wash skin thoroughly with soap and water. Cover affected area with polyethylene glycol and wash again with soap and water to remove propylene glycol and residual isocyanate. Seek medical treatment.
- In case of swallowing : Do not induce vomiting; give water to rinse mouth only; seek medical attention.
- In case of inhalation : Remove the patient from the contaminated area. Seek medical attention. If large amount of product has been inhaled in aerosol or vapor form, seek medical advice immediately, since delayed pulmonary edema may occur.

5- FIRE-FIGHTING MEASURES :

5-1 Fire-extinguisher types :
- Use : chemical foam, CO2, powder. Where the fire is of major proportions, water spray may also be used.

5-2 Specific fire and explosion risks :
Incomplete combustion or pyrolysis mainly produces oxides of carbon, water, isocyanate fumes, hydrogen cyanide traces or toxic gases. Closed containers may explode when exposed to extreme heat or burst when contaminated with water.

5-3 specific protective measures during firefighting :
Firefighting personnel should be equipped with insulated, autonomous respiratory protection equipment.
COMMERCIAL NAME : PX 5210 Isocyanate

6- ACCIDENTAL RELEASE MEASURES :

6-1 Individual protection :
Wearing of suitable protective clothing and protective equipment for face/eyes; wear suitable respiratory equipment if ventilation is insufficient. Evacuate personnel and provide mechanical ventilation.

6-2 Environmental protection : Please see § 12

6-3 Decontamination procedures :
- Contain split material in order to avoid its transfer to sewers or rivers and streams.
- Physically remove the material.
- Neutralize the product using a decontaminating agent (ethanol/water/concentrated ammonia - 50/45/5) or copious amounts of water.
- Cover over using an absorbent substance (e.g. sand, sawdust). After one hour, transfer to suitable drum containers. Do not close (likelihood of CO2 production). Cover tops only.
- Leave open to air in a supervised area for 7 to 14 days before being removed for disposal.

7- HANDLING AND STORAGE :

7-1 Handling :
- Inform personnel of risks associated with the product, the precautions to be taken and procedures to follow where an accident occurs.
- Observe personal hygiene rules to avoid contact with eyes and skin.
- Avoid inhaling vapors produced by the material, especially when heated and/or sprayed.
- Install showers and eye baths (“fountain” type).
- Ensure sufficient ventilation, including appropriate local air extraction, in order to comply with workplace exposure limits. Isocyanates have poor odor warning properties!
- Wash hands thoroughly at beginning of every work break and at the end of the working day.
- Work stations and the general working area must be kept perfectly clean.
- Avoid exposure to the product of persons having suffered from eczema or still suffering from any skin condition, wound, cut or irritation.

7-2 Storage :
- Keep the material hermetically sealed in its original packaging, protected from humidity and at a temperature between 59 and 77°F / 15 and 25°C in a well-ventilated storage facility.
- Ensure that the floor of the storage area is impermeable and concave in profile in order to provide effective containment.
- Keep the product away from food.
- Reproduce labeling on all new packs where original packaging is divided.

8- EXPOSURE CONTROLS/PERSONAL PROTECTION :

8-1 Exposure controls : Good general ventilation should be sufficient for most conditions. Local exhaust ventilation may be necessary for some operations. Always maintain workplace air contaminates to a minimum.

8-2 Personal protection :
- respiratory protection : NIOSH approved respirator for poorly ventilated areas or where product is being heated and/or sprayed; respirators required when above PEL's.
- eye protection : YES, chemical-goggles and faceshield
- skin protection : YES, protective gloves, such as nitrile, rubber, or neoprene - apron, protective sleeves
COMMERCIAL NAME : PX 5210 Isocyanate

9- PHYSICAL AND CHEMICAL PROPERTIES :

Physical state : liquid
Color : clear
Odor : characteristic
pH : not established
Flash point : > 230°F / 110°C
Specific gravity : 1.12
Solubility : - in water : at 68°F / 20°C : insoluble; slowly reacts with water to liberate carbon dioxide
- in solvents : YES (soluble in many organic solvents : benzene hydrocarbons and chlorinated hydrocarbons, acetone, phthalates, ...)

10- STABILITY AND REACTIVITY :

10-1 Dangerous decomposition by-products :
- By fire or high heat: carbon dioxide, carbon monoxide, oxides of nitrogen, dense black smoke, hydrogen cyanide, isocyanate acid, and other undetermined compounds.

10-2 Hazardous reactions with :
- Exothermic reaction may occur; contact with moisture or other materials which react with isocyanates (acids, alcohols, bases such as soda, ammonia, or amines) or temperature above 350°F may cause polymerization.

11- TOXICOLOGICAL INFORMATION :

Effects on eyes : aerosol, vapor, or liquid will irritate human eyes following contact.
Effects on skin : irritates and darkens skin, although systemic toxicity is considered low. Skin sensitization is unlikely unless exposure is repeated or prolonged. LD50 (rabbit): >10,000 mg/kg
Effects on ingestion : low toxicity for a single oral dose. LD50 (rat): >9,900 mg/kg
Over-Exposure : (especially where spraying is carried out without safety precautions) - a concentration dependent irritation to eyes, nose, throat, and respiratory tract. Delayed occurrence of nausea and allergic reactions (respiratory difficulty, cough, asthma) is possible. In predisposed individuals, these symptoms may appear after exposure to minimal concentrations of isocyanates, even where this value is below threshold limits. LC50 (rat): 434 mg/m3, 4 hrs.

A MEDICAL SURVEILLANCE PROGRAM IS RECOMMENDED FOR ALL PERSONNEL WORKING WITH ISOCYANATES

12- ECOLOGICAL INFORMATION :

This product is not miscible in water. It acts on water, producing CO2 and polyurea (a solid, non-fusible, and insoluble compound) which is, to the best of our knowledge, inert and non-biodegradable.

13- DISPOSAL CONSIDERATIONS :

All disposal methods must be in compliance with all Federal, State/Provincial and local regulations. Regulations may vary in different locations. Waste characteristics and compliance with applicable laws are the responsibility solely of the waste generator. Empty containers may not be disposed of unless any remaining material adhering to the internal walls has been removed (see § 6.3).
COMMERCIAL NAME: PX 5210 Isocyanate

14- TRANSPORT INFORMATION:

DOT Regulations/Information:
Not Regulated

15- REGULATORY INFORMATION:

US Federal Regulation:
Toxic Substances Control Act (TSCA):
All components are included in the EPA Toxic Substances Control Act Chemical Substance Inventory.

OSHA Hazard Communication Standard hazard classes:

EPA SARA Title III Section 312 hazard class:
Immediate Health Hazard; Delayed Health Hazard; Reactive Hazard

OSHA PEL/TWA:
for dicyclohexylmethane-4,4' diisocyanate: not established

ACGIH TLV/TWA:
for dicyclohexylmethane-4,4' diisocyanate: 0.005ppm (0.054 mg/m3)

EPA SARA Title III Section 313 Toxic Chemicals:
Diisocyanates N120 Upper bound - 85%

You may be required to submit this MSDS to state and local emergency response agencies (SERC & LEPC) and to your local fire department based on the chemical and quantity stored at your location. Call the EPA Hotline @ (800)535-0202 for more information or further assistance with chemical reporting requirements.

16- OTHER INFORMATION:

HMIS Ratings:

Health. Flammability. Reactivity

3*.1.1

Ratings Key: 4 = Highest hazard, 0 = Lowest hazard, * = Chronic Health Hazard

REVEALING MODIFICATION: I2.PDF

Revised: 2/13/2013 Supersedes sheet: 1/29/2013 This sheet provides a complement to the product use instructions but does not replace them. The information it contains is based on our current knowledge of the product concerned at the date of drafting. That information is given in good faith and does not in any circumstances remove from the user his duty to be aware of and to follow all legal regulations and statutes covering his activities. The user takes sole responsibility for application of safety measures covering the use of the product he is aware of. We also draw the user's attention to the risks attached to any use of the product for applications for which it was not designed.
**1- COMMERCIAL NAME : PX 5211 Polyol**

Do not handle this material until the manufacturer's safety precautions have been read and understood! Regulations require that all employees be educated & trained on the Material Safety Data Sheets for all products with which they come in contact.

**2- COMPOSITION/INFORMATION ON INGREDIENTS :**

<table>
<thead>
<tr>
<th>CHEMICAL NAME</th>
<th>C.A.S</th>
<th>QTY%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Formulated Polyether Polyol</td>
<td>Proprietary</td>
<td>40 - 60</td>
</tr>
<tr>
<td>2. Tetrahydroxypropylethlenediamine</td>
<td>102-60-3</td>
<td>40 - 60</td>
</tr>
<tr>
<td>3. N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**3- HAZARDS IDENTIFICATION :**

**POTENTIAL HEALTH HAZARD**

**Eye:** May cause eye irritation.

**Skin:** Prolonged exposure may slight irritation. A single prolonged exposure is not likely to result in the material being absorbed through skin in harmful amounts.

**Ingestion:** May cause irritation to mouth, throat, and gastrointestinal tract.

**Inhalation:** At room temperature, exposures to vapors are minimal due to physical properties; higher temperatures may generate vapor levels sufficient to cause irritation to respiratory tract.

**4- FIRST AID MEASURES :**

- Change any soiled clothing immediately.
- **In case of eye contact** : open eyelids as far as possible and flush with large quantities of water for at least fifteen minutes. Seek immediate medical attention.
- **In case of skin contact** : physically remove the product and wash skin thoroughly with soap and water. Consult a physician if skin irritation occurs.
- **In case of swallowing** : dilute with water but do not induce vomiting; seek immediate medical attention.
- **In case of inhalation** : remove the patient from the contaminated area. Consult physician if after-affects occur.

**5- FIRE-FIGHTING MEASURES :**

**5-1 Fire-extinguisher types :**
- Use : chemical foam, CO2, powder. Where the fire is of major proportions, water spray may also be used.

**5-2 Specific fire and explosion risks :**
Incomplete combustion includes oxides of carbon, nitrogen and sulfur.

**5-3 specific protective measures during firefighting :**
Firefighting personnel should be equipped with insulated, autonomous respiratory protection equipment.
6- ACCIDENTAL RELEASE MEASURES :

6-1 Individual protection :
Wearing of suitable protective clothing and protective equipment for face/eyes. Provide adequate ventilation.

6-2 Environmental protection : Please see § 12

6-3 Decontamination procedures :
- Contain spilt material in order to avoid its transfer to sewers or rivers and streams (marine pollutant).
- Physically remove the material.
- Cover with an absorbent substance. After approximately one hour, transfer to suitable drum/container for proper disposal.

7- HANDLING AND STORAGE :

7-1 Handling :
- Inform personnel of risks associated with the product, the precautions to be taken and procedures to follow where an accident occurs.
- Observe personal hygiene rules to avoid contact with eyes and skin.
- Avoid inhaling vapors produced by the material, especially when heated and/or sprayed.
- Install showers and eye baths ("fountain" type).
- Ensure sufficient ventilation, including appropriate local air extraction, in order to comply with workplace exposure limits.
- Wash hands thoroughly at beginning of every work break and at the end of the working day.
- Work stations and the general working area must be kept perfectly clean.

7-2 Storage :
- Keep the material hermetically sealed in its original packaging, protected from humidity and at a temperature between 59 and 77°F / 15 and 25°C in a well-ventilated storage facility.
- Ensure that the floor of the storage area is impermeable and concave in profile in order to provide effective containment.
- Keep the product away from food.
- Reproduce labeling on all new packs where original packaging is divided.

8- EXPOSURE CONTROLS/PERSONAL PROTECTION :

8-1 Exposure controls : Good general ventilation should be sufficient for most conditions. Local exhaust ventilation may be necessary for some operations. Always maintain workplace air contaminates to a minimum.

8-2 Personal protection :
- respiratory protection : If product is being heated and/or sprayed (avoid vapors and/or mists)
- eye protection : YES, chemical goggles or safety glasses with sideshields.
- skin protection : YES, protective gloves, such as nitrile, latex or rubber; apron, coveralls, etc.
COMMERCIAL NAME : PX 5211 Polyol

9- PHYSICAL AND CHEMICAL PROPERTIES :

Physical state : liquid
Color : trans blue
Odor : characteristic
pH : not established
Flash point : > 230°F / 110°C
Decomposition temperature : > 230°F / >110°C
Specific gravity : 1.04
Solubility :
- in water : at 68°F / 20°C : < 1%
- in solvents : YES (soluble in many organic solvents : benzene hydrocarbons and chlorinated hydrocarbons, acetone, phthalates, ...)

10- STABILITY AND REACTIVITY :

10-1 Dangerous decomposition by-products :
- These are non-existent if storage and handling rules are followed (please see also § 5-2); may produce carbon monoxide and carbon dioxide.
10-2 Hazardous reactions with :
- Oxidizers. Avoid contact with strong acids; avoid unintended contact with isocyanates, and moisture.

11- TOXICOLOGICAL INFORMATION :

Effects on eyes : may cause temporary irritation.
Effects on skin : repeated or prolonged single exposure may cause irritation to the skin. May cause a cutaneous allergic reaction in predisposed individuals. It appears unlikely that any danger is attached to absorption of quantities of the product through the skin following prolonged single exposure.
Dermal - LD50 (rabbit): >2,000 mg/kg
Effects of inhalation : may be irritating to the respiratory tract.
Effects on ingestion : irritating to the gastrointestinal tract - seek Medical Advice!
Oral - LD50 (rat): >2,000 mg/kg

12- ECOLOGICAL INFORMATION :

Based on data for one or more similar products :
Ecotoxicity : toxic to aquatic organisms; dangerous for the environment
Biodegradability : difficult to biodegrade

13- DISPOSAL CONSIDERATIONS :

All disposal methods must be in compliance with all Federal, State/Provincial and local regulations. Regulations may vary in different locations. Waste characteristics and compliance with applicable laws are the responsibility solely of the waste generator.
For unused & uncontaminated product, the preferred options include sending to a licensed, permitted: recycler, reclamer, incinerator or other thermal destruction device.
COMMERCIAL NAME : PX 5211 Polyol

14- TRANSPORT INFORMATION :

DOT Regulations/Information:
Not regulated (in 'non-bulk' volume)

IATA Regulations/Information:
Not regulated (in 'non-bulk' volume)

IMDG Regulations/Information:
Proper Shipping Name:
Environmentally Hazardous Substances, Liquid, N.O.S. (Formulated Polyether Polyol)
Hazard Class: 9; UN 3082; Packing Group III

Internal label: H0002000

15- REGULATORY INFORMATION :

US Federal Regulation
Toxic Substances Control Act (TSCA):
All components are included in the EPA Toxic Substances Control Act Chemical Substance Inventory.

OSHA Hazard Communication Standard Hazard Class:
Acute & Chronic Health hazard (Sec. 311/312).

OSHA PEL/TWA - ACGIH TLV : none established
Sec. 313 Chemicals : none

16- OTHER INFORMATION :

HMIS Ratings:

Health. Flammability. Reactivity

2*.1.0

Ratings Key: 4 = Highest hazard, 0 = Lowest hazard, * = Chronic Health Hazard

REVEALING MODIFICATION : P3.PDF

Revised : 1/30/2013  Supersedes sheet : New Issue This sheet provides a complement to the product use instructions but does not replace them. The information it contains is based on our current knowledge of the product concerned at the date of drafting. That information is given in good faith and does not in any circumstances remove from the user his duty to be aware of and to follow all legal regulations and statutes covering his activities. The user takes sole responsibility for application of safety measures covering the use of the product he is aware of. We also draw the user's attention to the risks attached to any use of the product for applications for which it was not designed.
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