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**Nippon Polyurethane Industry Co., Ltd.**

High Performance Urethane Department  
15F Mita NN Bldg. 4-1-23 Shiba,  
Minato-ku, Tokyo 108-0014 Japan  
Phone: +81-3-5439-8622 Fax: +81-3-5439-8632

Date of printing: January 8, 2009
Version: No. 2.02
Date of revision: February 25, 2008
Date of issue: April 1, 2007

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**Product name: CORONATE HX**

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**1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

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<b>Product name</b>	CORONATE HX
<b>General description</b>	Modified polyisocyanate
<b>Manufacturer</b>	<b>Nippon Polyurethane Industry Co., Ltd.</b> 4-1-23, Shiba, Minato-ku, Tokyo Japan
<b>Emergency telephone number</b>	+81-3-5439-8622 High Performance Urethane Department ( Monday ~ Friday, Japan standard time 9:00 a.m. ~ 6:00 p.m.)

**2. COMPOSITION / INFORMATION ON INGREDIENTS**

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<u>Chemical name</u>	<u>%</u>	<u>CAS registry</u>
Modified polyisocyanate	> 99	Trade secret
Hexamethylene diisocyanate (HDI)	< 0.4	822-06-0
<b><u>Control parameters</u></b>		
HDI	0.005ppm	ACGIH(TLV-TWA)2001
	0.01ppm	DFG MAK (peak) 2001

**3. HAZARDS IDENTIFICATION**

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**Emergency overview****Major health hazards**

Harmful if inhaled, respiratory tract irritation, skin irritation, eye irritation, allergic reactions.

**Physical hazards**

May react on contact with water. Container may rupture or explode.

**Potential health effect****Eye contact**

**Short term exposure:** irritation, tearing

**Long term exposure:** same as effects reported in short term exposure.

**Ingestion**

**Short term exposure:** vomiting

**Long term exposure:** not available

**Inhalation**

**Short term exposure:** irritation, allergic reactions, wheezing, asthma, lung congestion.

**Long term exposure:** lung damage

**Skin contact**

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**Short term exposure:** irritation, blisters, rash

**Long term exposure:** itching

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**4. FIRST AID MEASURES****Eye contact**

Hold eyelids apart and immediately flush eyes with plenty of water for at least 15 minutes.  
Seek immediate medical advice.

**Ingestion**

If swallowed, seek medical advice immediately. Wash out mouth with water.  
Do not induce vomiting.

**Inhalation**

Remove the patient immediately to an area with fresh air. Seek medical attention.

**Skin contact**

Remove all contaminated clothing and shoes immediately.  
Wash the contaminated area thoroughly with water followed by soap.  
If irritation persists or inflammation is caused, seek medical advice.

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**5. FIRE FIGHTING MEASURES**

Flash point	225°C, determined by open cup flash test.
Autoignition point	Not available
Range of explosion	Not available
Flammability	None
Combustibility	Yes
Oxidizability	None
Self reactivity	None
Dust explosion	None

**General hazard**

During a fire, aerosols or gases may be generated through decomposition.

**Fire fighting instructions**

Positive pressure self-contained breathing apparatus and full protective clothing and gloves should be provided.

Splash water onto drums and facilities which are not on fire to avoid fire spreading and heat evolved.

After the fire is extinguished, neutralize the spilled material with decontaminant.

Restrict entry of unauthorized personnel.

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**Extinguishing media:** dry chemical powder, carbon dioxide, water and foam.

**6. ACCIDENTAL RELEASE MEASURES****General**

Protective goggles, rubber gloves, and gas mask should be worn.  
Restrict entry of unauthorized personnel.  
Stay in windward position at the time of disposal.  
The hazard area should be well-ventilated.  
Safely stop discharge.

**Small spill**

Neutralize the leakage/spillage with decontaminant, or by admixing it with sand, clay or sawdust.  
Dispose of in a closed chemical waste container.

**Large spill**

Admix with sand, clay or sawdust to prevent the spillage/leakage from further spreading out.  
Dispose of in a chemical waste container. This container should not be closed.  
Neutralize the residues with decontaminant.  
Wash the spillage area clean with water.

**7. HANDLING AND STORAGE****Handling**

The operator should be trained in handling this product.  
Appropriate safety measures and protective equipment should be used for this operation.  
Provide adequate ventilation and the operator should use protective equipment.  
When the drum is pressurized, unscrew the bung slowly to release the pressure before taking it off.  
This product should not be filled in an unwashed or wet container.  
The use of fire is strictly prohibited in the work area.  
Those who show allergenic and sensitizing effects should not be in charge.

**Storage**

Keep container properly sealed and store indoors in a well ventilated area.  
Once opened, the container should be closed and sealed with nitrogen gas.  
If stored outdoors, the container should be covered with waterproof canvas sheet to avoid being exposed in the rain.  
The use of fire is strictly prohibited in the work area.

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**Product name: CORONATE HX****8. EXPOSURE CONTROLS / PERSONAL PROTECTION****Engineering controls**

Local exhaust ventilation should be provided for indoors use.  
Readily accessible eye and hand wash stations should be provided.

**Personal protection**

Chemical goggles, rubber gloves and suitable respiratory equipment.

**Exposure limit:** Refer to Section 2

**9. PHYSICAL AND CHEMICAL PROPERTIES**

Physical form	Liquid
Color	Pale yellow
Odor	Faint odor
Boiling point	None
Vapor pressure	None
Evaporation rate	None
Freezing point	Not available
Specific gravity	1.159 at 23°C
Initial boiling point	Not available
Viscosity	3,000 mm <sup>2</sup> /s at 23°C
Solubility (water)	Insoluble
Solubility (other)	Soluble in toluene, ethyl acetate or acetone

Note: The above data are typical physical properties and should not be taken as a specification.

**10. STABILITY AND REACTIVITY****Chemical stability (Condition to avoid)**

High temperature and moisture.

**Incompatibility**

This product reacts with materials with active hydrogen groups such as amines and alcohols.

**Hazardous decomposition product**

Reaction with water produces heat and carbon dioxide gas.

**Hazardous polymerization**

will occur. It gets polymerized by alkaline materials or tertiary amines.

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**Product name: CORONATE HX****11. TOXICOLOGICAL INFORMATION**

<b>Corrosive properties</b>	Not available
<b>Irritant properties</b>	
May cause irritation on the skin and mucous membrane.	
First irritation index on the skin (OECD method; rabbit)	1.67
<b>Allergic &amp; sensitizing effects</b>	Not available
<b>Acute toxicity</b>	Not available
<b>Sub-acute toxicity</b>	Not available
<b>Chronic toxicity</b>	Not available
<b>Carcinogenic effects</b>	Not available
<b>Mutagenic effects</b>	Not available
<b>Effects on the reproductive system</b>	Not available
<b>Teratogenic effects</b>	Not available
<b>Others</b>	Not available

**12. ECOLOGICAL INFORMATION**

<b>Biodegradability</b>	Not available
<b>Bioaccumulation</b>	Not available
<b>Fish toxicity</b>	Not available
<b>Other information on ecotoxicity</b>	Not available

**13. DISPOSAL CONSIDERATIONS****Disposal methods**

This product should be incinerated in an appropriate facility.

This product should be treated by authorized agents professionally trained in disposing industrial waste.

This product should be disposed of after forming solid foam through reaction with polyol.

Mix this product with decontaminant to form urea compound through chemical reaction, and remove the toxicity by dripping the mix and being left to stand for 24 hours.

**Handling empty container after use**

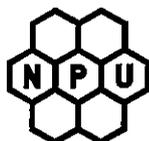
Empty drum should be left to stand with water and left unsealed for 24 hours.

Water should subsequently be removed afterward.

Used container should be punctured and scrapped.

**14. TRANSPORT INFORMATION**

Proper shipping name: - (Modified polyisocyanate)

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Hazardous class: Not applicable  
Identification number: Not applicable  
IMDG class: Not applicable

Follow all the regulations in your country.

Be sure that the container is tightly sealed, that no leakage is found and that all the necessary indications are specified.

Filling, loading and extracting operations should be performed under the supervision of an authorized operator.

Nitrogen gas or dry air should be charged into the container for transportation after filling or extracting.

**15. REGULATORY INFORMATION**

Regulatory information with regard to this substance in your country should be examined by your own responsibility.

**16. OTHER INFORMATION**

Reason for issue: Update to new format

Prepared by: Technical department

All the chemical materials may present unknown hazards and should be used in caution.

The information herein is given in good faith, but no warranty, express or implied is made.

Consult Nippon Polyurethane Industry Co., Ltd. for further information.

Date of the first issue: June 11, 1992