



MATERIAL SAFETY DATA SHEET

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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: September 8, 2008
Version: No.2.02
Date of revision: March 13, 2008
Date of issue: April 1, 2007

Product name: CORONATE HL

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product name	CORONATE HL
General description	Modified polyisocyanate solution
Manufacturer	Nippon Polyurethane Industry Co., Ltd. 4-1-23, Shiba, Minato-ku, Tokyo Japan
Emergency telephone number	+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

<u>Chemical name</u>	<u>wt%</u>	<u>CAS registry</u>
Ethyl acetate	25	141-78-6
Modified polyisocyanate	75	Trade secret
Hexamethylene diisocyanate (HDI)	< 1	822-06-0
Control parameters		
Ethyl acetate	400ppm	ACGIH(TLV-TWA)2001
HDI	0.005ppm	ACGIH(TLV-TWA)2001

3. HAZARDS IDENTIFICATION

Emergency overview	Flammable liquid. Acute toxic substance. May form explosive gas mixture with air.
Major health hazards (For Ethyl acetate) Respiratory tract irritation, eye irritation, skin irritation, central nervous system depression. (For HDI) Harmful if inhaled, respiratory tract irritation, skin irritation, eye irritation, allergic reactions.	
Physical hazards: Reaction with water produces heat and carbon dioxide gas. May polymerize. Container may rupture or explode. Physical form : Liquid, Color : Pale yellow, Odor : Solvent	
Potential health effect	
Eye contact (For Ethyl acetate)	
Short term exposure: irritation	
Long term exposure: irritation	



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(For HDI)

Short term exposure: irritation, tearing

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

Ingestion

(For Ethyl acetate)

Short term exposure: irritation, headache, drowsiness, dizziness, loss of coordinating, unconsciousness

Long term exposure: not available

(For HDI)

Short term exposure: vomiting

Long term exposure: not available

Inhalation

(For Ethyl acetate)

Short term exposure: irritation, headache, drowsiness, dizziness, loss of coordinating, unconsciousness

Long term exposure: not available

(For HDI)

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

Long term exposure: lung damage

Skin contact

(For Ethyl acetate)

Short term exposure: irritation

Long term exposure: irritation

(For HDI)

Short term exposure: irritation, blisters, rash

Long term exposure: itching

4. FIRST AID MEASURES

Eye contact

Hold eyelids apart and immediately flush eyes with plenty of clean water for at least 15 minutes and 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.

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Skin contact

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

5. FIRE FIGHTING MEASURES

Flash point	3°C, determined by closed cup flash test.
Autoignition temperature	Not available
Explosion limits	Not available
Flammability	Yes
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.

Extinguishing media: dry chemical powder, carbon dioxide, large amount of water and foam.

6. ACCIDENTAL RELEASE MEASURES

General

Immediately remove all sources of ignition and flammable material.

In case of fire, use powder or foam as extinguishing media.

Full protective equipment including respiratory protective apparatus should be worn.

Deny entry to unauthorized personnel.

Stay in windward position at the time of disposal.

The hazard area should be well-ventilated.

Safely stop discharge.

Small spill



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Neutralize the leakage/spillage with decontaminant, or by admixing it with sand, clay or sawdust.

Dispose it in a chemical waste container.

Large spill

Admix with sand, clay or sawdust to prevent the spillage/leakage from further spreading out.

Dispose it 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.

Adequate engineering control should be provided for anti-static electricity.

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 to prevent moisture.

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.

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



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9. PHYSICAL AND CHEMICAL PROPERTIES

Physical form	Liquid
Color	Pale yellow
Odor	Solvent
Boiling point	Not available
Vapor pressure	Not available
Evaporation rate	Not available
Freezing point	Not available
Specific gravity	1.086 at 23°C
Initial boiling point	Not available
Viscosity	400 mm ² /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.

11. TOXICOLOGICAL INFORMATION

Corrosive properties	Not available
Irritant properties (For Ethyl acetate)	
May cause irritation on mucous membrane.	Will be narcotic.
Allergenic and sensitizing effects	Not available
Acute toxicity (For Ethyl acetate)	
Oral (rat)	LD 50 5,620 mg/kg
Prolonged inhalation may cause acute pulmonary edema.	



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Sub-acute toxicity	Not available
Chronic toxicity	Not available
Carcinogenic effects	Not available
Mutagenic effects	Not available
Effects on the reproductive system	Not available
Teratogenic effects	Not available
Others	Not available

12. ECOLOGICAL INFORMATION

Biodegradability	Not available
Bioaccumulation	Not available
Fish toxicity	Not available
Other information on ecotoxicity	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.

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:	Resin solution (Modified polyisocyanate solution)
Hazardous class:	3 Flammable liquid
Identification number:	UN 1866
IMDG class:	3 Flammable liquid

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 should be charged into the container for transportation after filling or extracting.



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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, 1987