



# MATERIAL SAFETY DATA SHEET

## MANUFACTURER'S NAME

**NOROO Paint & Coatings Co., Ltd.**

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## DATE OF PREPARATION

July 1, 2006

## EMERGENCY TELEPHONE NO

KOREA 82-80-944-7777 U.S.A 1-800-535-5053 CANADA 1-800-535-5053

## INFORMATION TELEPHONE NO.

KOREA 82-31-467-6470~3 CANADA 1-516-328-8705  
U.S.A 1-516-328-8705 INDONESIA 62-21-560-2548

## Section I - PRODUCT IDENTIFICATION

PRODUCT NUMBER		HMIS CODES	
		Health	-- 2
		Flammability	-- 3
PRODUCT NAME	<b>Urethane Hardner CCH-250</b>	Reactivity	-- 1
PRODUCT CLASS			

## Section II - HAZARDOUS INGREDIENTS

CAS No.	HAZARDOUS INGREDIENTS	%by WT	ACGIH TLV	ISH-KOREA	UNITS	V.P. (mm HG)
1330-20-7	Xylene	25~35	100	100	PPM	6-16
108-88-3	Toluene	25~35	50	100	PPM	22
822-06-0	Hexamethylene Diisocyanate	0.0~0.5	0.005	N.A	PPM	0.05
N.A	Polymer	35~45	N.A	N.A	N.A	N.A

## Section III - PHYSICAL DATA

PRODUCT WEIGHT	-- N.A	EVAPORATION RATE	-- Slow than ether
SPECIFIC GRAVITY	-- 0.96~1.00	VAPOR DENSITY	-- Heavier than air
BOILING POINT	-- 138~144°C	MELTING POINT	-- N.A
VOLATILE VOLUME	-- 55~65%	SOLUBILITY IN WATER	-- N.A



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## Section IV- FIRE AND EXPLOSION HAZARD DATA

FLASH POINT 27°C  
LEL UEL  
FLAMMABILITY CLASSIFICATION 1.0 7.1

EXTINGUISHING MEDIA  
carbon dioxide, dry chemical, foam

### UNUSUAL FIRE AND EXPLOSION HAZARDS

Keep containers tightly closed. Isolate from heat, electrical equipment, sparks and open flame. Closed containers may explode when exposed to extreme heat. Application to hot surfaces requires special precautions. During emergency conditions overexposure

### SPECIAL FIRE FIGHTING PROCEDURES

Full protective equipment including self-contained breathing apparatus should be used. Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible aut

## Section V - HEALTH HAZARD DATA

### ROUTES OF EXPOSURE

Exposure may be by INHALATION and/or SKIN or EYE contact, depending on conditions of use. To minimize exposure, follow recommendations for proper use, ventilation, and personal protective

### ACUTE Health Hazards

### EFFECTS OF OVEREXPOSURE

Irritation of eyes, skin and respiratory system. May cause nervous system depression. Exterme overexposure may result in unconsciousness and possibly death.

### SIGNS AND SYMPTOMS OF OVEREXPOSURE

Redness and itching or burning sensation may indicate eye or excessive skin exposure. Headache, dizziness, nausea, and loss of coordination are indications of excessive exposure to vapors or spray mists.

### MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

May cause allergic respiratory and/or skin reaction in susceptible persons or sensitization. This effect may be delayed several hours after exposure.

### EMERGENCY AND FIRST AID PROCEDURES

- If INHALED: If any breathing problems occur during use, LEAVE THE AREA and get fresh air. If problems remain or occur later, IMMEDIATELY get medical attention.
- If on SKIN: Wash affected area thoroughly with soap and water. Remove contaminated clothing and launder before re-use.
- If in EYES: Flush eyes with large amounts of water for 15 minutes. Get medical attention.
- If SWALLOWED: Get medical attention.

### CHRONIC Health Hazards



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No ingredient in this product is an IARC, NTP or OSHA listed carcinogen. Prolonged overexposure to solvent ingredients in Section II may cause adverse effects to the liver, urinary, blood forming, cardiovascular and reproductive systems. Persons sensitive

## Section VI - REACTIVITY DATA

STABILITY - stable  
INCOMPATIBILITY - None known  
HAZARDOUS DECOMPOSITION PRODUCTS -By fire; Carbon dioxide, Carbon Monoxide  
HAZARDOUS POLYMERIZATION -Will not Occur can be harmful or fatal.

## Section VII- SPILL OR LEAK PROCEDURES

### STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Remove all sources of ignition. Ventilate and remove with inert absorbent.

### WASTE DISPOSAL METHOD

Waste from this product may be hazardous as defined under the Resource. Conservation and Recovery Act (RCRA) 40 CFR 261. Waste must be tested for ignitability to determine the applicable EPA hazardous waste numbers. Incinerate in approved facility. Do no

## Section VIII- PROTECTION INFORMATION

### PRECAUTIONS TO BE TAKEN IN USE

NO PERSON SHOULD USE THIS PRODUCT, OR BE IN AREA WHERE IT IS BEING USED, IF THEY HAVE CHRONIC (LONG-TERM) LUNG OR BREATHING PROBLEMS OR IF THEY EVER HAD A REACTION TO ISOCYANATES.

Use only with adequate ventilation. Avoid breathing vapor and spray mist. Avoid contact with skin and eyes. Wash hands after using.

This coating may contain materials classified as nuisance particulates (listed "as Dust" in Section II) which may be present at hazardous levels only during sanding or abrading of the dried film. If no specific dusts are listed in Section II, the applicable

### VENTILATION

Local exhaust preferable. General exhaust acceptable if the exposure to materials in Section II is maintained below applicable exposure limits.

### RESPIRATORY PROTECTION

Where overspray is present, a positive pressure air supplied respirator (TC19C NIOSH/MSHA approved) should be worn. If unavailable, a properly protection against materials in Section II may be effective. Follow respirator manufacturer's directions for use.

ALLOWED IN THE AREA WHERE THIS PRODUCT IS BEING USED UNLESS EQUIPPED WITH THE SAME RESPIRATOR PROTECTION RECOMMENDED FOR THE PAINTERS.

When Sanding or abrading the dried film, wear a dust/mist respirator approved by NIOSH/MSHA for dust which may be generated from this product, underlying paint, or the abrasive.

### PROTECTIVE GLOVES



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Wear gloves which are recommended by glove supplier for protection against materials in Section II .

## EYE PROTECTION

Wear safety spectacles with unperforated sideshields.

## OTHER PROTECTIVE EQUIPMENT

Use barrier cream on exposed skin.

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## Section IX- PRECAUTIONS

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### DOL STORAGE CATEGORY-1B

#### PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

Contents are FLAMMABLE. Keep away from heat, sparks, and open flame. During use and until all vapors are gone: Keep area ventilated-Do not smoke - Extinguish all flames, pilot lights, and heaters - Turn off stoves, electric tools and appliances, and any

Consult NFPA Code. Use approved Bonding and Grounding procedures.

Keep container closed when not in use. Transfer only to approved containers with complete and appropriate labeling. Do not take internally.

Keep out of the reach of children.

#### OTHER PRECAUTIONS

This product must be mixed with other components before use. Before opening the packages, READ AND FOLLOW WARNING LABELS ON ALL COMPONENTS. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal.

The above information pertains to this product as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to this product may substantially alter the composition and hazards of the product. Since