

U-POL™

SAFETY DATA SHEET

2K SYSTEM 20 STANDARD HARDENER EUROPEAN VOC (UK)

Page 1

Issued: 05/12/2007

Revision No: 2

1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND OF THE COMPANY / UNDERTAKING

Product name: 2K SYSTEM 20 STANDARD HARDENER EUROPEAN VOC (UK)

Product code: S2039EV

Use of substance / preparation: HARDENER CONTAINING ISOCYANATE, MIXTURE OF SOLVENTS FOR PROFESSIONAL USE ONLY

Company name: U-Pol Products
Denington Industrial Estate
Denington Road
Wellingborough
Northants
NN8 2QP
United Kingdom
Tel: +44-(0)-1933 230300
Fax: +44-(0)-1933 230351
Emergency tel: +44-(0)-1933 230310
Email: technical@u-pol.com

2. HAZARDS IDENTIFICATION

Main hazards: Flammable. May cause sensitisation by inhalation and skin contact. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Harmful: may cause lung damage if swallowed.

Other hazards: May cause sensitisation by skin contact.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous ingredients: HEXAMETHYLENE DIISOCYANATE OLIGOMERS 70-90%

EINECS: 500-060-2 CAS: 28182-81-2

[Sens.] R43

- HEXAMETHYLENE-DI-ISOCYANATE <1%

EINECS: 212-485-8 CAS: 822-06-0

[T] R23; [Xi] R36/37/38; [Sens.] R42/43

[cont...]

SAFETY DATA SHEET

2K SYSTEM 20 STANDARD HARDENER EUROPEAN VOC (UK)

- N-BUTYL ACETATE 1-10%
EINECS: 204-658-1 CAS: 123-86-4
[-] R10; [-] R66; [-] R67
- LOW BOILING POINT NAPHTHA - UNSPECIFIED - SOLVENT NAPHTHA (PETROLEUM),
LIGHT AROM. 10-30%
EINECS: 265-199-0 CAS: 64742-95-6
[-] R10; [Xi] R37; [N] R51/53; [Xn] R65
- ISOPHORON DIISOCYANATE HOMOPOLYMER 1-10%
CAS: 53880-05-0
[Sens.] R43

4. FIRST AID MEASURES (SYMPTOMS)

- Skin contact:** There may be irritation and redness at the site of contact.
- Eye contact:** There may be irritation and redness.
- Ingestion:** There may be soreness and redness of the mouth and throat.
- Inhalation:** There may be irritation of the throat with a feeling of tightness in the chest.

4. FIRST AID MEASURES (ACTION)

- Skin contact:** Wash immediately with plenty of soap and water. Remove all contaminated clothes and footwear immediately unless stuck to skin.
- Eye contact:** Bathe the eye with running water for 15 minutes. Consult a doctor.
- Ingestion:** Do not induce vomiting. Wash out mouth with water. Consult a doctor.
- Inhalation:** Remove casualty from exposure ensuring one's own safety whilst doing so. Consult a doctor.

5. FIRE-FIGHTING MEASURES

- Extinguishing media:** Carbon dioxide. Dry chemical powder. Alcohol or polymer foam. Do not use water.
- Exposure hazards:** Flammable. In combustion emits toxic fumes of carbon dioxide / carbon monoxide.
- Protection of fire-fighters:** Wear self-contained breathing apparatus. Wear protective clothing to prevent contact with skin and eyes.

6. ACCIDENTAL RELEASE MEASURES

- Personal precautions:** Refer to section 8 of SDS for personal protection details. Remove all incompatible materials as outlined in section 10 of SDS.
- Environmental precautions:** Do not discharge into drains or rivers. Contain the spillage using bunding.
- Clean-up procedures:** Spillages should be contained and collected using non-combustible absorbent materials e.g. sand, earth, vermiculate, etc., and placed in a suitable container. The contaminated area should be cleaned up immediately with a suitable decontaminant. A typical non-flammable decontaminant comprises of: Sodium Carbonate (5%) in Water (95%). Add the solution to any residues and allow to stand for several days in a non-sealed container until no further reaction occurs. Avoid all incompatible materials in clean-up procedure - see section 10 of SDS.

7. HANDLING AND STORAGE

Handling requirements: Ensure there is sufficient ventilation of the area. Smoking is forbidden. Persons with a history of asthma, allergies or chronic or recurrent respiratory diseases should only be employed in processes in which this product is used under appropriate medical supervision. Based on the properties of the isocyanate content of this product, respiratory exposure may cause acute irritation and/or sensitisation of the respiratory system, resulting in asthmatic symptoms, wheezing and a tightness of the chest. Sensitised persons may subsequently show asthmatic symptoms when exposed to airborne concentrations of isocyanates well below the occupational exposure limit. Repeated exposure may lead to permanent respiratory disability.

Storage conditions: Store in cool, well ventilated area. Keep away from sources of ignition. Keep container tightly closed.

Suitable packaging: Must only be kept in original packaging.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION**Workplace exposure limits**

WEL (8 hr exposure limit): 0.02 mg/m³

WEL (15 min exposure limit): 0.07 mg/m³

Hazardous ingredients: HEXAMETHYLENE DIISOCYANATE OLIGOMERS

WEL (8 hr exposure limit): 0.02 - 0.07 mg/m³

- HEXAMETHYLENE-DI-ISOCYANATE

WEL (8 hr exposure limit): 0.02 mg/m³ WEL (15 min exposure limit): 0.07 mg/m³

- N-BUTYL ACETATE

WEL (8 hr exposure limit): 724 mg/m³ WEL (15 min exposure limit): 966 mg/m³

Engineering measures: Provide adequate ventilation. Where reasonably practicable, local exhaust ventilation and good general ventilation should be installed. Suitable respiratory protective equipment should also be worn. Ensure lighting and electrical equipment are not a source of ignition.

Respiratory protection: Compressed airline breathing apparatus (EN139). Air-fed respiratory protective equipment should be worn when this product is sprayed if the exposure of the sprayer or other people nearby cannot be controlled to below the OEL and engineering controls and methods cannot reasonably be improved. Under dry, cool conditions it is possible for the isocyanate to remain unreacted in the paint film for up to 30 hours after application. If dry flatting is unavoidable, air-fed respiratory protective equipment should be used.

Hand protection: Nitrile gloves.

Eye protection: Face-shield.

Skin protection: Protective clothing with elasticated cuffs and closed neck.

9. PHYSICAL AND CHEMICAL PROPERTIES

State: Liquid

SAFETY DATA SHEET

2K SYSTEM 20 STANDARD HARDENER EUROPEAN VOC (UK)

Colour: Colourless**Odour:** Aromatic**Evaporation rate:** Moderate**Solubility in water:** Insoluble**Also soluble in:** Most organic solvents.**Viscosity:** Non-viscous**Viscosity value:** 100 cps**Flammability limits %: lower:** 3.1**upper:** 16.0**Flash point°C:** 27**Autoflammability°C:** 370**Relative density:** 1.08**VOC g/l:** 236**10. STABILITY AND REACTIVITY****Stability:** Stable under normal conditions.**Conditions to avoid:** Heat. Sources of ignition. Flames.**Materials to avoid:** Keep away from oxidising agents and strongly alkaline and strongly acidic materials.

Uncontrolled exothermic reactions occur with amines and alcohols. The product reacts slowly with water resulting in the evolution of carbon dioxide. In closed containers, pressure build up could result in distortion and in extreme cases bursting of the container.

Haz. decomp. products: In a fire, hazardous decomposition products such as smoke, carbon monoxide, carbon dioxide, oxides of nitrogen, hydrogen cyanide, amines and alcohols may be produced.**11. TOXICOLOGICAL INFORMATION****Hazardous ingredients:** HEXAMETHYLENE-DI-ISOCYANATE

IVN MUS LD50 5600 µg/kg

ORL MUS LD50 350 mg/kg

ORL RAT LD50 710 µl/kg

- N-BUTYL ACETATE

ORL MUS LD50 6 gm/kg

ORL RAT LD50 10768 mg/kg

- LOW BOILING POINT NAPHTHA - UNSPECIFIED - SOLVENT NAPHTHA (PETROLEUM), LIGHT AROM.

ORL RAT LD50 8400 mg/kg

Chronic toxicity: May cause sensitisation by skin contact. Based on the properties of the isocyanate content of this product, respiratory exposure may cause acute irritation and/or sensitisation of the respiratory system, resulting in asthmatic symptoms, wheezing and a tightness of the chest. Sensitised persons may subsequently show asthmatic symptoms when exposed to airborne

SAFETY DATA SHEET
 2K SYSTEM 20 STANDARD HARDENER EUROPEAN VOC (UK)

concentrations of isocyanates well below the occupational exposure limit. Repeated exposure may lead to permanent respiratory disability.

Routes of exposure: Refer to section 4 of SDS for routes of exposure and corresponding symptoms.

12. ECOLOGICAL INFORMATION

Mobility: Insoluble in water.

Persistence and degradability: Not biodegradable.

Bioaccumulative potential: No data available.

Other adverse effects: Very toxic to aquatic organisms.

13. DISPOSAL CONSIDERATIONS

Disposal operations: D10 Incineration on land.
 R1 Solvent reclamation/regeneration.

Disposal of packaging: Dispose of in a regulated landfill site or other method for hazardous or toxic wastes.

NB: The user's attention is drawn to the possible existence of regional or national regulations regarding disposal.

14. TRANSPORT INFORMATION

ADR / RID

UN no: 1263	ADR Class: 3
Packing group: III	Classification code: F1
Shipping name: PAINT	
Labelling: 3	Hazard ID no: 30



IMDG / IMO

UN no: 1263	Class: 3
Packing group: III	EmS: F-E,S-E*
Marine pollutant: .	
Labelling: 3	

IATA / ICAO

UN no: 1263	Class: 3
Packing group: III	
Packing instructions: 309(P&CA); 310(CAO)	
Labelling: 3	

SAFETY DATA SHEET

2K SYSTEM 20 STANDARD HARDENER EUROPEAN VOC (UK)

15. REGULATORY INFORMATION**Hazard symbols:** Harmful.**Risk phrases:** R10: Flammable.

R42/43: May cause sensitisation by inhalation and skin contact.

R52/53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R65: Harmful: may cause lung damage if swallowed.

Safety phrases: S23: Do not breathe vapour/spray

S24: Avoid contact with skin.

S37: Wear suitable gloves.

S42: During fumigation / spraying wear suitable respiratory equipment.

Precautionary phrases: Contains isocyanates. See information supplied by the manufacturer.**Water hazard class:** 1

Note: The regulatory information given above only indicates the principal regulations specifically applicable to the product described in the safety data sheet. The user's attention is drawn to the possible existence of additional provisions which complete these regulations. Refer to all applicable national, international and local regulations or provisions.

US VOC CONVERSION FACTOR 250 g/l = 2.1 lb/gal

16. OTHER INFORMATION**Other information:** This safety data sheet is prepared in accordance with EC Directive 2001/58/EC.

Breathe Freely, INDG 172; Respiratory Sensitisers and COSHH - a guide for employers.

INGD95; Isocyanates - health hazards and precautionary methods

Sensitised persons may subsequently show asthmatic symptoms when exposed to airborne concentrations of isocyanates well below the occupational exposure limit. Repeated exposure may lead to permanent respiratory disability.

Based on the properties of the isocyanate content of this product, respiratory exposure may cause acute irritation and/or sensitisation of the respiratory system, resulting in asthmatic symptoms, wheezing and a tightness of the chest.

Risk phrases used in s.3: R43: May cause sensitisation by skin contact.

R23: Toxic by inhalation.

R36/37/38: Irritating to eyes, respiratory system and skin.

R42/43: May cause sensitisation by inhalation and skin contact.

R10: Flammable.

R66: Repeated exposure may cause skin dryness or cracking.

SAFETY DATA SHEET

2K SYSTEM 20 STANDARD HARDENER EUROPEAN VOC (UK)

R67: Vapours may cause drowsiness and dizziness.

R37: Irritating to respiratory system.

R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R65: Harmful: may cause lung damage if swallowed.

Legal disclaimer: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. Addition of reducers, hardeners and other additives over and above U-POL's recommendations for use, may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, this company shall not be held liable for any damage resulting from handling or from contact with the above product.