



MOBIHEL 2K HS hardener 4500

Revision No.:1
Revision Date:25/04/07**1. IDENTIFICATION OF THE PRODUCT AND OF THE SUPPLIER**

Product name: **MOBIHEL 2K HS hardener 4500**
Item code: 70888
Product general name: Hardener based on isocyanate resin in organic solvents.
Producer/supplier: HELIOS Tovarna barv, lakov in umetnih smol Količevo, d.o.o.
Količevo 65, 1230 DOMŽALE, SLOVENIJA
tel. +386 1 722 4000, fax. +386 1 722 4040
Emergency phone : In case of health hazard, consult a private or a doctor on duty. For additional information please call phone number +386 (1) 722 4381 (INDOK dept.).

2. COMPOSITION AND INFORMATION ON INGREDIENTS

Description: Binders prepared in organic solvents.

It contains the following health and environment hazardous ingredients:

Chemical name:	Conc.(%)	CAS. No.:	EC No.:	Index No.:	Symbol:	R- phrases:
aliphatic polyisocyanate	25-50	28182-81-2	212-485-8	-	Xi	R43
n-butyl acetate	10-25	123-86-4	204-658-1	607-025-00-1		R67 R66 R10
aliphatic polyisocyanat	10-25	53880-05-0	-	-	Xi	R43
Xylene	10-25	1330-20-7	215-535-7	601-022-00-9	Xn	R38 R20/21 R10
toluene	2.5-10	108-88-3	203-625-9	601-021-00-3	F Xn	R11 R67 R38 R65 R48/20 R63
2-methoxy-1-methylethyl acetate	2.5-10	108-65-6	203-603-9	607-195-00-7	Xi	R36 R10
hexamethylene diisocyanate	<0.5	822-06-0	212-485-8	615-011-00-1	T	R42/43 R36/37/38 R23
3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate	<0.5	4098-71-9	223-861-6	615-008-00-5	T N	R51/53 R42/43 R36/37/38 R23

3. HAZARD IDENTIFICATION

Hazards designation: Flammable.
Vapours may cause drowsiness and dizziness. May cause sensitisation by skin contact. Harmful by inhalation and in contact with skin.

4. FIRST AID MEASURES

Symptoms caused by excessive exposure: Dizziness, nausea, vomiting, difficult breathing, irritation of skin or eyes. In case of these symptoms, seek medical help and show this data sheet.

In case of excessive inhalation: Breathe fresh air. Rest. Do not eat or drink until the symptoms disappear.

In case of ingestion: Do not eat. Drink only water. Do not induce vomiting.

In case of contact with skin and clothes: Remove contaminated clothes. Wash skin with water and soap. Do not use organic solvents or thinners.

In case of contact with eyes: Rinse with plenty of water for at least 15 minutes and seek medical help.

5. FIRE-FIGHTING MEASURES

Preventive measures: Remove all possible sources of fire, e.g. open flame, lit cigarette, sparks from tools and equipment. Always keep containers closed.

Fire extinguishers: Foam, powder, CO₂, to a limit also water spray.

Fire extinguishing measures: Put out fire in the direction of the wind. Spray non-burning containers with water, prevent product leakage and move containers to a safe space. In case of fire, health damaging gases and soot may appear. The use of a respiratory mask with filter A is recommended.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Avoid possible sources of ignition (fire, lit cigarette, sparks, etc.). Protect respiratory system against inhalation of vapours. Provide good ventilation.

Environmental precautions: Do not allow spilling into water, watercourses, cellars, caves or drains and the accumulation of vapours in closed rooms.

Methods of cleaning up: Absorb and mix the spilled product with soil, sand or any other absorbent material for liquids. Dispose the mixture to a deposit site for special or dangerous waste or burn in the incinerator.

7. HANDLING AND STORAGE

Handling: During handling the product ventilate the area. Follow valid regulations on the emission of dangerous substances into the environment (par. 12) and explosion points (par. 9). Follow safety at work regulations. Keep containers tightly closed. Store in places out of reach of unskilled people. Do not eat, drink or smoke while using the product.

Storage: Store in accordance with the regulations on the storage of flammable and other dangerous substances. Do not store with food or fodder. Keep in a tightly closed container in dry and ventilated storage, follow the instructions on the label. Packaging should be marked with an original product label.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Personal protection: Adjust safety protection to the product application technology. Use materials resistant to organic solvents (rubber, special plastic). Use only spark-free tools.

Respiratory protection: Provide such ventilation at the site of use so that the concentration of solvent vapours present in product will not exceed the threshold limit value (TLV).

The prescribed of threshold limit value (TLV) hazardous substances in the work place atmosphere according to the Regulations on the safety of employees and protection against chemical substance exposure at work (German TRGS 900):

Chemical name	CAS No.	TLV (mg/m ³)
n-Butyl acetate	123-86-4	480
Xylene	1330-20-7	221
Toluene	108-88-3	190
2-Methoxy-1-methylethyl acetate	108-65-6	275
Hexamethylene diisocyanate	822-06-0	0.035
3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate	4098-71-9	0.09

Hand protection: Use materials resistant to organic solvents (rubber, special plastic). Always wear protective gloves.

Eye protection: Wear safety goggles, face protection when spraying.

Skin protection: Wear safety clothes.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form:	Liquid
Colour:	Colorless to pale amber
Odour:	Specific for organic solvents
pH:	N.A.
Boiling point:	126 °C n-butyl acetate
Flash point:	31 °C ISO 3679
Ignition point:	370 °C n-butyl acetate
Density (kg/l):	1.01 ISO 2811
Viscosity:	DIN4 20 °C 13s
Explosion limits lower (vol. %):	1.1
Explosion limits upper (vol. %):	6.6
Vapour pressure (Pa/20 °C):	1066 n-Butyl acetate
Contents of dry substance (wt. %):	55
Solubility in water:	Insoluble

10. STABILITY AND REACTIVITY

Stability: The product is stable under the normal handling, storage and use conditions. Keep tightly closed in the original packaging.

Incompatibility: Not reactive and compatible with the majority of usual substances, except for extreme oxidants. Keep tightly closed in the original packaging.

11. TOXICOLOGICAL INFORMATION

Inhalation: Long inhalation of the organic solvents present in product in concentration, which

exceeds the declared threshold limit value (TLV) (Chap. 8), may irritate the mucous tissue of respiratory system and even affect the normal functioning of liver, kidney and central nervous system.

Ingestion: At the ingestion the product may cause tissue damages in digestive tract.

Contact with skin: Long and intensive contact with skin may cause the skin to become dry.

Contact with eyes: Product drops or its vapours in high concentrations may cause irritation of eyes.

The symptoms of the product's effects on the human body are stated in Chapter 4.

Chemical name:	CAS No.	LC50 inhalation	LD50 - Oral	LD50 Dermal
n-Butyl acetate	123-86-4		Oral LD50 Rat = 14000mg/kg	Dermal LD50 Rabbit = 5000mg/kg
Xylene	1330-20-7	Inhalation LC50 (4h) Rat = 6350mg/l	Oral LD50 Rat = 8700mg/kg	
Toluene	108-88-3	Inhalation LC50 (4h) Rat > 5mg/l	Oral LD50 Rat > 2000mg/kg	
2-Methoxy-1-methylethyl acetate	108-65-6	Inhalation LC50 Rat > 5mg/l	Oral LD50 Rat > 2000mg/kg	
3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate	4098-71-9	Inhalation LC50 (4h) Rat = 0.04mg/l	Oral LD50 Rat > 4825mg/kg	

12. ECOLOGICAL INFORMATION

The product contains 45 % of volatile organic substances, for which the emission in air is defined by the Regulation on emission in air for pollution source plants (The German TA -Luft 1994).

In nature the product is not easily bio-degradable. The product should not be spilled in the ground, water, watercourses, drains and the cleaning device.

The recommended degradation method is the use of the high temperature incinerator.

Chemical name	CAS No.	Ecotoxicity conc.:
n-Butyl acetate	123-86-4	Aquatic LC50 (96h) fish = 184mg/l Aquatic LC50 (96h) Daphnia = 18mg/l Aquatic LC50 bacteriae > 1000mg/l
Xylene	1330-20-7	Aquatic LC50 fish = 1 - 10mg/l Aquatic LC50 Daphnia = 1 - 10mg/l Aquatic LC50 bacteriae = 10 - 100mg/l
Toluene	108-88-3	Aquatic LC50 fish = 1 - 10mg/l Aquatic LC50 Daphnia = 10 - 100mg/l Aquatic LC50 bacteriae = 100 - 1000mg/l
2-Methoxy-1-methylethyl acetate	108-65-6	Aquatic LC50 (96h) fish = 100 - 180mg/l Aquatic LC50 (48h) Daphnia > 500mg/l
3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate	4098-71-9	Aquatic LC50 (48h) fish = 1.8mg/l Aquatic LC50 (48h) Daphnia = 27mg/l Aquatic LC50 bacteriae = 555mg/l

13. DISPOSAL CONSIDERATIONS

Contaminated products: The product leftovers, waste and useless packaging should be handled in accordance with the Regulations on processing of special and dangerous waste (dir. 91/689/EEC, dir. 2000/532/EC).

Waste classification number: 08 01 11

Waste hazardous characteristic: H5 ; H3-B

The recommended degradation method is the use of the controlled high temperature

incineration or disposal to the deposits for dangerous substances.

Contaminated packaging: In case the metal packaging can not be reused, it will be recycled in the ironworks or disposed at special deposits (dir. 94/62/EC, dir. 1999/177/EC).

14. TRANSPORT INFORMATION

Transport by road/by railway - ADR/RID:

UN No:	1263	PAINT RELATED SUBSTANCES (640 E)
Class:	3	Flammable liquids
Packing group:	III	
Symbol of hazard:	3	
Hazard number:	30	

Transport by sea – IMDG:

UN No:	1263
Class:	3.3
Page:	3372
Label:	3

15. REGULATORY INFORMATION

Labelling:



Contains: xylene ; aliphatic polyisocyanat ; hexamethylene diisocyanate ; 3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate
Contains isocyanates. See information supplied by the manufacturer.

R-phrases:

R 10	Flammable.
R 20/21	Harmful by inhalation and in contact with skin.
R 43	May cause sensitisation by skin contact.
R 67	Vapours may cause drowsiness and dizziness.

S-phrases:

S 2	Keep out of reach of children.
S 16	Keep away from sources of ignition - No smoking.
S 36/37/39	Wear suitable protective clothing, gloves and eye/face protection.
S 46	If swallowed, seek medical advice immediately and show this container or label.
S 51	Use only in well-ventilated areas.

FOR PROFESSIONAL USE ONLY!

Regulations: This safety data sheet has been prepared according to the Directive 67/548, 88/379, 92/32, 99/45.

16. OTHER INFORMATION

Meaning of R sentences from the Chapter 2:

R 43	May cause sensitisation by skin contact.
R 10	Flammable.
R 66	Repeated exposure may cause skin dryness or cracking.
R 67	Vapours may cause drowsiness and dizziness.
R 20/21	Harmful by inhalation and in contact with skin.
R 38	Irritating to skin.
R 63	Possible risk of harm to the unborn child.
R 48/20	Harmful: danger of serious damage to health by prolonged exposure through inhalation.
R 65	Harmful: may cause lung damage if swallowed.
R 11	Highly flammable.
R 36	Irritating to eyes.
R 23	Toxic by inhalation.
R 36/37/38	Irritating to eyes, respiratory system and skin.
R 42/43	May cause sensitisation by inhalation and skin contact.
R 51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

The information in this Safety Data Sheet refer only to the mentioned product in the form as delivered and it is not necessary valid when this material is used in the combination with other materials or in the processes, which are not foreseen in the instructions for use. This information is correct to the supplier's best of knowledge and reliable at the time of the publication of this Safety data sheet. It is the user's responsibility to ascertain the suitability of the product for a specific use.

The data in this Safety data sheet do not prove the quality of the product, they are only the instructions for the safe use of the product with the user.

In case of non-compliance with the measures or incorrect use of the product , stated in the Safety data sheet we do not accept any responsibility for the consequences.