According to 91/155/EWG Serie 482-HDA

Date of issue / revised : 31-10-2005 Page 1 of 4

No.: 00578/RG/e

1.	IDENTIFIC	IDENTIFICATION OF SUBSTANCE, PREPARATION AND COMPANY						
	TRADE		SERIE 482-HDA					
	INTENDED USE		HARDENER FOR 2-COMPONENT WATERBORNE VARNISH					
	MANUFACTURER		PRINTCOLOR SCREEN LTD. CH-8965 BERIKON TEL ++41-(0)56-648 85 85 FAX ++41-(0)56-648 85 00					
2.		INFORMATION	TELEPHONE NUMBER ++41-44-251 51 51 Tox-Center Zürich (CH 145)					
۷.	2.1 CHEMIC	COMPOSITION / INFORMATION ON INGREDIENTS 2.1 CHEMICAL CHARACTERISTICS OF PRODUCT: ALIPHATIC ISOCYANATE 2.2 SUBSTANCES PRESENTING A HEALTH HAZARD WITHIN THE MEANING OF GUIDE-LINES NO.67/548/EC OR ASSIGNED OCCUPATIONAL EXPOSURE LIMITS						
	CAS-No	DESIGNATION A	CCORDING TO EC GUIDE-LINES	CONCENTRATION WEIGHT-%	DANGERSYMBOL LETTER	R-PHRASES (*)		
	822-06-0	HEXAMETHYLEN SOLVENT	E-1,6-DIISOCYANATE	< 0,2 < 20	T 	23-36/37/38-42/43		
	(*) CLEAR TE		S SEE SECTION 15 AND 16	< 20				
3.	HAZARDS	IDENTIFICA	TION					
	DANGER SIGN SPECIAL DANGER ADVICE FOR PERSONS AND ENVIRONMENT		XI IRRITANT Irritating to eyes and skin May cause sensitization by skin contact - contains Isocyanates -					
4.	FIRST AID	MEASURES						
	GENERAL INHALATION		In all cases of doubt or if symptoms persist, take medical advice. Never give anything by mouth to an unconscious person; call a physican. Immediately remove all contaminated clothing. Remove to fresh air, keep the patient warm and at rest. If breathing has stopped, administer artificial respiration. Give nothing ba mouth. If unconscious, place in					
	SKIN CONTA	АСТ	the recovery position and seek medical advice. Remove contaminated clothing. Wash skin thoroughly with soap and water or use a proprietary skincleaner. DO NOT USE SOLVENTS OR THINNER.					
	EYE CONTAC	СТ	Contact lenses should be removed. Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart, and seek medical advice.					
	INGESTION		If accidentally swaalowed obtain immediate medical attention. Keep at rest. Do NOT induce vomiting.					
5.	FIRE FIGH	E FIGHTING MEASURES						
	EXTINGUISH RECOMMENT	DED	Alcohol resistant foam, CO2	2, powder, water s	spray/mist			
		EXTINGUISHING MEDIA NOT SUITABLE Waterjet,						
	SPECIAL PR	SPECIAL PROTECTION Appropriate breathing apparatus may be required						
	RECOMMEN	DATIONS	Fire will produce dense black smoke containing hazardous products of combustion (see Section 10). Decomposition products may be a hazard to health. Appropriate self-contained breathing apparatus may be required. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighthing to enter drains or water courses.					

SDS/EGSI01/03-99/DH page 1

According to 91/155/EWG **Serie 482-HDA**

Date of issue / revised : 31-10-2005 Page 2 of 4

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS

Exclude sources of ignition and ventilate the area. Exclude non-essential personnel. Avoid breathing vapours. Refer to protective measures listed in Sections 7 and 8.

No.:

00578/RG/e

ENVIRONMENTAL PRECAUTIONS

Do not allow to enter drains or water courses. If the product contaminates rivers, lakes and drains or soil, inform the responsible local authorities.

METHODS FOR CLEANING UP / COLLECTING

Contain and collect spillages with non-combustible absorbent materials, e.g. sand, earth, vermiculite, diatomaceous earth and place in a suitable container. The contaminated area should be cleaned up immediately with a suitable decontaminant. One possible (flammable) decontaminant comprises: Water (45 parts by volume)/ethanol or isopropanol (50 parts)/conc. (d:0.880) ammonia solution (5 parts). A non-flammable alternative is sodium carbonate (5 parts)/water (95 parts). Add the same decontaminant to any residues and allow to stand for several days in a non-sealed container until no further reaction occurs. once this stage is reached, close the container and dispose of in accordance with the waste regulations (see Section 13). Do not allow to enter drains or water courses.

7. HANDLING AND STORAGE

HANDLING

INFORMATION FOR SAFE HANDLING

Prevent the creation of flammable or explosive concentrations of vapour in air and avoid vapour concentrations exceeding the occupational exposure limits. Moreover, the product should only be used in areas which have been cleared from direct light, fire and other sources of ignition. The product may charge itself electro-statically. Electrical equipment should be protected properly. When pouring the product into other containers, only ground mains should be used. It is recommended to wear antistatic clothing and foot wear. Use spark-proof tools. Avoid any contact with eyes or skin. Smoking, eating and drinking should be prohibited in areas of storage and use. For personal protection see Section 8. Follow legal protective and safety instructions.

INFORMATION ABOUT PROTECTION AGAINST EXPLOSIONS AND FIRES

Vapours are heavier than air and may sread along floors. They may form explosive mixtures in combination with air. Preparations may charge electrostatically: Always use earthing leads when transferring from one container to another.

STORAGE

REQUIREMENTS FOR STORAGE ROOMS AND CONTAINERS Electrical equipment should be protected to the appropriate standard. Floors should be of the conducting type. Keep container tightly closed. Never use pressure to empty: Container is not a pressure vessel. No smoking. Prevent unauthorized access. Containers which are opened must be carefully resealed and kept upright to prevent leakage. No ressurized container.

ADVICE FOR COMBINED STORAGE

Store seperately from strong acid and alkaline materials as well as from oxidizing agents, amines, alcohols and water.

FURTHER ADVICE FOR STORAGE

Store at a cool and well ventilated place. Avoid heating and direct sunlight. Keep away from flammable matters and observe instructions on the labels. Always keep in containers of same material as the original one.

8. EXPOSURE CONTROL / PERSONEL PROTECTION

ENGINEERING MEASURES

Provide adequate ventilation. Where reasonably practicable this should be achieved by use of local exhaust ventilation and good general extration. If these are not sufficient to maintain concentrations of particulates and/or solvent vapours below the relevant occupational exposure limits, suitable respiratory protective equipment should be worn. (See 'Personal protection' below).

COMPONENTS WITH CRITICAL VALUES THAT REQUIRE MONITORING AT THE WORKPLACE (EXPOSURE LIMITS)

CAS-No.	DESIGNATION ACCORDING TO EC GUIDE-LINES	OCCUPATIONAL EXPOSURE LIMITS	Unit
822-06-0	HEXAMETHYLENE-1,6-DIISOCYANATE	0,005	ppm

The above values have been taken from the valid list (f.e.TRGS 900) of the Federal Republic of Germany or from the Regulations of SUVA/Switzerland regarding occupationalexposure limits.

SDS/EGSI01/03-99/DH page 2

According to 91/155/EWG Serie 482-HDA

Date of issue / revised : 31-10-2005

PERSONAL PROTECTION

If the solvent vapour concentration exceed the exposure limits, the use of breathing RESPIRATORY

apparatus is practical or necessary (breathing protection measures) **PROTECTION**

Use protective gloves, e.g. Neoprene. At lasting or repeated contact of the product Skin Protection

with the skin, use protecting emulsions. Observe recommendations of the manufacturer. After washing hands replace lost skin fat by fat containing skin creams

Safety glasses as protection against splashes of solvents should be worn. **EYE PROTECTION**

BODY PROTECTION Cotton or cotton/synthetic overalls or coveralls are normally suitable. Personal Should

wear antistatic clothings made of natural fiber or of high temperature resistant

synthetic fiber. All parts of body should be washed after contact.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form liquide Color transparent Odour like solvents

> Value Unit Method

Boiling point > 200 $^{\circ}$ C

Flash point ca.120 ℃

Viscosity DIN 53019 / 23 °C ca.500 mPas

Density ca.1,2 g/cm³ (23°C)

pH-Value n.a.

Content of solvent < 20 Weight-%

Explosion limit Lower 1.8 Upp 14.3 Vol.-% (solvent)

Solubility in water Reaction with water at 23 °C

STABILITY AND REACTIVITY 10.

Stable under the recommended storage and handling conditions (see Section 7). **STABILITY**

CONDITIONS TO AVOID Keep away from oxidising agents and strongly alkaline and strongly acids to prevent the

possibility of exothermic reaction. Uncontrolled exothermic reactions occur with amines and alcohols. The product reacts slowly with water resultiong in evolution of carbonic dioxide. In closed containers, pressure build up could result in distortion, blowing and in extreme cases

In a fire, hazardous decomposition products such as smoke, carbon monoxide, carbon

bursting of the container.

DANGEROUS PRODUCTS

dioxide and oxides of nitrogen may be produce. OF DECOMPOSITION

TOXICOLOGICAL INFORMATION 11.

There is no data available on the product itself. It is formulated within the SBPIM's guidelines on materials for exclusion from printing inks and varnishes. Exposure to organic solvent vapours may result in adverse health effects such as irritation of the mucous membrane and the respiratory system and adverse effects on the rental and central nervous systems. Symptoms include headache, dizziness, fatique, muscular weakness, drowsiness and in extreme casas loss of consciousness. Repeated or prolonged contact with the product may lead to removal of natural fats from the skin resulting in non-allergic contact dermatitis and absorption through the skin. Splashes in the eyes may cause irritation and reversible local damage.

12. **ECOLOGICAL INFORMATION**

There is no data available on the product itself. The product should not be allowed to enter drains or water courses or be deposited where it can affect ground or surface waters. The Air Pollution Control requirements of regulations made under the Environmental Protection Act may apply to the use of this product.

DISPOSAL CONSIDERATIONS 13.

WASTE KEYS VVS-code 1640 Switzerland Country

> 080302 EU Waste key (acc.TA-Abfall) Country

The container and packaging materials are recycable according to the local prescriptions and **PACKAGING**

regulations

DO NOT ALLOW INTO DRAINS OR WATER COURSES OR DISPOSE OF WHERE GROUND OR SURFACE WATERS MAY BE AFFECTED. WASTES, INCLUDING EMPTIED CONTAINERS, ARE CONTROLLED WASTES AND SHOULD BE DISPOSED OF IN ACCORDANCE WITH REGULATIONS MADE UNDER THE CONTROL OF POLLUTION ACT AND THE ENVIRONMENTAL PROTECTION ACT.

SDS/EGSI01/03-99/DH page 3

Page 3 of 4

No.: 00578/RG/e

According to 91/155/EWG Serie 482-HDA

Date of issue / revised : 31-10-2005

No.:

00578/RG/e

Page 4 of 4

14. TRANSPORT INFORMATIONS Declarations according to the transport regulations for road (ADR), rail (RID), sea (IMO) and Not Classified as Hazardous for Transport air (ICAO / IATA) transport. **UN Number LAND TRANSPORT** Transp. Designations: Package group **MARITIME TRANSPORT UN Number IMO-Class** EmS-Nr. Transp. Designations Package group Warning Marine pollutant IATA/ICAO-Class **UN Number AIR TRANSPORT** Transp.Designations Package group REGULATORY INFORMATION 15. **CLASSIFICATION ACCORDING TO EEC DIRECTIVES DANGER SYMBOL** Χi **DANGER DESIGNATION** Irritant HAZARD DETERMINING Isocyanates **COMPONENTS OF LABELLING R-PHRASES** 36/38 Irritating to eyes and skin 43 May cause sensitization by skin contact S-PHRASES 24/25 Avoid contact with skin and eyes 37 Wear suitable gloves **P-PHRASES** CLASSIFICATION ACCORDING TO BAG (SWITZERLAND) AND GERMAN DIRECTIVES **CH-GIFTGESETZGEBUNG** 4 BAG T No. 619004 See also label 3

LUFTREINHALTEVERORDNUNG LRV-class % % < 20 % **IMMISSIONSSCHUTZ TA-Luft** % Ш % Ш < 20 % **BRANDSCHUTZ** VbF-class N.E. **BVD-class** NF WGK **BRD** WASSERHAUSHALT (self-assessment) **CH** 3

THE INFORMATION CONTAINED IN THIS SAFETY DATA SHEET DOES NOT CONSTITUTE THE USER'S OWN ASSESSMENT OF WORKPLACE RISKS AS REQUIRED BY OTHER HEALTH AND SAFETY LEGISLATIONS. THE PROVISION OF THE HEALTH AND SAFETY AT WORK ETC.

ACT AND THE CONTROL SUBSTANCES HAZARDOUS TO HEALTH REGULATIONS APPLY TO THE USE OF THIS PRODUCT AT WORK.

16. OTHER INFORMATIONS

R-Phrases

R 23 Toxic by inhalation

R 36/37/38 Irritating to eyes, respiratory system and skin

R 42/43 May cause sensitization by inhalation and skin contact

THE INFORMATION CONTAINED IN THIS SAFETY DATA SHEET IS PROVIDED IN ACCORDANCE WITH THE REQUIREMENTS OF THE CHIP REGULATIONS. THE PRODUCT SHOULD NOT BE USED FOR PURPOSES OTHER THAN THOSE SHOWN IN SECTION 1 WITHOUT FIRST REFERRING TO THE SUPPLIER AND OBTAINING WRITTEN HANDLING INSTRUCTIONS. AS THE SPECIFIC CONDITIONS OF USE OF THE PRODUCT ARE OUTSIDE THE SUPPLIER'S CONTROL, THE USER IS RESPONSIBLE FOR ENSURING THAT THE REQUIREMENTS OF RELEVANT LEGISLATION ARE COMPLIED WITH. THE INFORMATION CONTAINED IN THIS SAFETY DATA SHEET IS BASED ON THE PRESENT STATE OF KNOWLEDGE AND CURRENT NATIONAL LEGISLATION. IT PROVIDES GUIDANCE ON HEALTH, SAFETY AND ENVIRONMENTAL ASPECTS OF THE PRODUCT AND SHOULD NOT BE CONSTRUED AS ANY GUARANTEE OF TECHNICAL PERFORMANCE OR SUITABILITY FOR PARTICULAR APPLICATIONS.

SDS/EGSI01/03-99/DH page 4