



Marabu

**MATERIAL SAFETY DATA SHEET**

Hardener  
Quick Identifier

**GLH**

FOR PRINTING INK AND  
RELATED MATERIALS  
Information on this Form is proprietary  
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Use of our Customers

<b>HAZARD RATINGS</b>		<b>HEALTH</b>	<b>2</b>
Minimal	0	<b>FLAMMABILITY</b>	<b>2</b>
Slight	1	<b>REACTIVITY</b>	<b>1</b>
Moderate	2		
Serious	3		
Severe	4		
Personal Protection SC			

**SECTION I**

MANUFACTURER'S NAME:	Marabuwerke GmbH & Co.
ADDRESS:	Asperger Str. 4
CITY, STATE and ZIP:	D-71732 Tamm/Germany
EMERGENCY TELEPHONE No.:	800-424-9300 (within the USA and Canada)
OTHER INFORMATION CALLS:	01149-7141-691-0 (phone from USA and Canada)
DATE PREPARED:	19.07.1999
SIGNATURE OF PERSON RESPONSIBLE FOR PREPARATION (optional)	Dipl. Chem. Gabriele Heller

**SECTION II HAZARDOUS INGREDIENTS**

HAZARDOUS COMPONENT(S) (chemical and common name(s))	OSHA PELs		ACGIH TLVs		% (optional)	CAS No.
	TWA	STEL/CEIL	TWA	STEL/CEIL		
3-(2-Aminoethylamino)propyl-trimethoxysilane	n.e.	n.e.	n.e.	n.e.	70 - 75	1760-24-3
Aromatic hydrocarbons (C <sub>9</sub> -C <sub>10</sub> )	n.e.	n.e.	n.e.	n.e.	25 - 30	64742-95-6
contains: 45% Trimethyl benzene	n.e.	n.e.	25 ppm	n.e.		25551-13-7
Methanol (generated by hydrolysis) (skin) 200 ppm		n.e.	200 ppm	250 ppm		67-56-1

(skin)= Danger of Cutaneous Absorption

**SECTION III PHYSICAL & CHEMICAL CHARACTERISTICS**

BOILING POINT	147 °C
SPECIFIC GRAVITY (H <sub>2</sub> O = 1)	0,97
VAPOR PRESSURE (mm Hg)	5
VAPOR DENSITY (Air = 1)	heavier than air
VOLATILE ORGANIC COMPOUNDS	290 g/l
SOLUBILITY IN WATER	appreciable

REACTIVITY IN WATER	reactive (formation of methanol)
APPEARANCE and ODOR	clear liquid, characteristic odor
MELTING POINT	n.a.

#### SECTION IV FIRE & EXPLOSION DATA

FLASH POINT	47 °C	METHOD USED	closed cup
FLAMMABLE LIMITS in Air % by Vol.	LEL 0,6	UEL 12,0	
AUTO-IGNITION TEMPERATURE	300 °C		
EXTINGUISHER MEDIA	alcohol resistant foam, carbon dioxide, chemical powder, sand		
SPECIAL FIRE FIGHTING PROCEDURES	Full protective equipment including self-contained breathing apparatus should be used. In contact with water product will generate methanol. Water may be used to cool tightly closed containers to prevent pressure build-up due to extreme heat.		
UNUSUAL FIRE AND EXPLOSION HAZARDS	Vapors are heavier than air and may spread along floors. Vapors may form explosive mixtures with air. Avoid heat, open flames, static electricity, electrical equipment and sparks. Preparation may charge electrostatically: always use earthing leads when transferring from one container to another. Keep container tightly closed. Closed containers may explode when exposed to extreme heat. Application to hot surfaces requires special precautions.		

#### SECTION V PHYSICAL HAZARDS (REACTIVITY DATA)

STABILITY	UNSTABLE X STABLE O	CONDITIONS TO AVOID	high temperatures, humidity
INCOMPATIBILITY (Materials to avoid)	Alkalies, oxidizers. With water reaction with build-up of methanol, heating and lowering of the flash point. With acids reacts to heat. Reacts slowly with chlorinated hydrocarbons or ketones and aldehydes.		
HAZARDOUS DECOMPOSITION PRODUCTS	None, provided the product is adequately stored and handled. In case of fire, dangerous decomposition products such as carbon dioxide, carbon monoxide, soot, nitrogen oxides and nitrogenous gases can be produced.		
HAZARDOUS POLYMERISATION	MAY OCCUR WILL NOT OCCUR	O X	CONDITIONS TO AVOID

#### SECTION VI HEALTH HAZARDS

1. ACUTE	harmful, irritant, sensitizing	2. CHRONIC
SIGNS and SYMPTOMS of EXPOSURE	Irritating to respiratory system. Inhalation can cause headaches, dizziness, tiredness and nausea. Prolonged or repeated inhalation may affect the nervous system and cause kidney and liver complaints. May cause sensitization by skin contact. Danger of absorption by the	

skin. Dries the skin. Repeated contact with the skin may lead to inflammation.  
 Vapors and the liquid itself will irritate the eyes. Risk of serious damage to eyes.  
 Harmful: may cause lung damage if swallowed. If swallowed, stomach complaints and irritation of the digestive organs may result.  
 The product may release methanol in the gastro-intestinal tract.  
 According to published evidence, methanol is capable of drying the skin, irritating the mucous membranes or producing a narcotic effect inducing a state of coma or resulting in death. After a prolonged delay, damage may be caused to the heart, kidneys, liver and optic nerves (loss of sight).

MEDICAL CONDITIONS GENERALLY AGGRAVATED by EXPOSURE none are known

CARCINOGENITY	NATIONAL TOXICOLOGY PROGRAM	No
	I.A.R.C. MONOGRAPHS	No
	OSHA	No
	EPA	No

EMERGENCY and FIRST AID PROCEDURES	Take off all contaminated clothes. In all cases of doubt, or when symptoms persist, seek medical attention.
ROUTES OF ENTRY	
1. Inhalation	Remove to fresh air and keep warm. If breathing is difficult: artificial respiration. Call for a physician.
2. Eyes	Rinse immediately with plenty of water. Take to a physician for medical treatment.
3. Skin	Wash immediately with plenty of water and soap.
4. Ingestion	Administer medicinal charcoal (tablets or powder) in large quantities (up to 50 tablets) with water. Ensure that plenty of water is drunk in small quantities. Seek medical advice immediately. Do not induce vomiting. Instructions for the doctor: The substance gives off large quantities of methanol on contact with water (which includes the gastro-intestinal tract). For this reason, consider the possibility of methanol poisoning and its known latency period of several days.

**SECTION VII SPECIAL PRECAUTIONS AND SPILL / LEAK PROCEDURES**

PRECAUTIONS to be TAKEN in HANDLING and STORAGE	FOR INDUSTRIAL USE ONLY! Use only in well ventilated areas. Keep away from sources of ignition. Prevent the creation of flammable or explosive concentrations of vapor in air. Avoid vapor concentration higher than the occupational exposure limit. Keep container tightly closed. When using do not eat, drink or smoke. Avoid contact with skin and eyes. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing. Do not empty into drains.
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STEPS to be TAKEN in CASE MATERIAL is RELEASED or SPILLED	Remove sources of ignition. Ventilate area. Do not breathe vapors. Remove by using suitable inert liquid absorbing material, e.g. kieselgur. Clean preferably with a detergent, avoid use of solvents.
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WASTE DISPOSAL METHODS	Dispose of or incinerate in accordance with local, state and federal regulations.
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**SECTION VIII SPECIAL PROTECTION INFORMATION / CONTROL MEASURES**


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RESPIRATORY PROTECTION (SPECIFIC TYPE)	If TLV or PEL of one hazardous component is exceeded, use approved respirators for organic vapors or approved self contained breathing apparatus. Its use must be in compliance with all OSHA health and fit testing requirements. Use respiratory protection when spray painting.
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VENTILATION	LOCAL EXHAUST	Yes	MECHANICAL (GENERAL)	Yes	SPECIAL	OTHER
Use and store with adequate ventilation, sufficient to keep exposure below current PELs or TLV limits.						

PROTECTIVE GLOVES	yes	EYE PROTECTION	use safety-goggles
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OTHER PROTECTIVE CLOTHING or EQUIPMENT	use apron if necessary to prevent skin contact
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WORK/HYGIENIC PRACTICES	When using do not eat, drink or smoke. Wash hands thoroughly before eating, drinking or using toilet facilities. Use re-greasing skin cream.
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The information contained herein is based on technical data believed to be reliable. However, since the conditions under which this information may be applied are beyond our control, we can assume no liability for results of its application. This information should be used only by persons having sufficient technical skill to make informed judgements regarding its application.

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**A D D E N D U M**


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**S A R A T I T L E I I I S E C T I O N 3 1 3 S U P P L I E R N O T I F I C A T I O N**


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The purpose of this addendum is to identify ingredients in this product that are chemical subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and of 40 CFR 372. We as a supplier, are required to report this information to you on an annual basis with your first order of each product for the year.

Listed below are the chemicals in this product that are subject to reporting under Section 313. The CAS number and weight percent follow the compound name.

SHADE	SECTION 313 CHEMICAL	CAS-NO.	%
--	1,2,4-Trimethylbenzene	95-63-6	10,5

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