MACROFAN PLASTIC PRIMER HARDENER

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name	:	MACROFAN PLASTIC PRIMER HARDENER
Product code	:	L0MH0300

1.2 Relevant identified uses of the substance or mixture and uses advised against

Use of the Substance/Mixture	:	Paints, varnishes and enamels
Chemical nature	:	Poliysocyanic compound - professional use

1.3 Details of the supplier of the safety data sheet

Company	:	Lechler SpA Via Cecilio 17 22100 Como- CO-
Telephone	:	+39031586111
Telefax	:	+39031586206
E-mail address	:	safety@lechler.eu
Responsible/issuing person		

1.4 Emergency telephone number

Tel. +39-031-586301 Fax +39-031-586299

This telephone number is available during office hours only.

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Flammable liquids, Category 3	H226: Flammable liquid and vapour.
Acute toxicity, Category 4	H332: Harmful if inhaled.
Skin irritation, Category 2	H315: Causes skin irritation.
Respiratory sensitisation, Category 1	H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin sensitisation, Category 1	H317: May cause an allergic skin reaction.
Specific target organ toxicity - single exposure, Category 3	H335: May cause respiratory irritation.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :

Signal word : Danger

Hazard statements	:		
		H226	Flammable liquid and vapour.
		H315	Causes skin irritation.
		H317	May cause an allergic skin reaction.
		H332	Harmful if inhaled.
		H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
		H335	May cause respiratory irritation.

Precautionary statements	:	**Prevention:**	
		P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
		P261	Avoid breathing vapours.
		P284	Wear respiratory protection.
		Response:	
		P342 + P311	If experiencing respiratory symptoms: Call a POISON CENTER/doctor.
		P362 + P364	Take off contaminated clothing and wash it before reuse.
		P370 + P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Hazardous components which must be listed on the label:

- 28182-81-2 Polysocyanate HDI Derivative
- 164250-92-4 Aliphatic polyisocyanate
- 822-06-0 hexamethylene-di-isocyanate

Additional Labelling:

Restricted to professional users.
EUH204 Contains isocyanates. May produce an allergic reaction.

2.3 Other hazards

None known.
No hazards resulting from the material as supplied.
The information required is contained in this Material Safety Data Sheet.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Chemical nature : Liquid solution

Hazardous components

Chemical name	CAS-No. EC-No. Registration number	Classification (REGULATION (EC) No 1272/2008)	Concentration [%]
Polysocyanate HDI Derivative	28182-81-2 500-060-2 01-2119485796-17	Acute Tox. 4; H332 Skin Sens. 1; H317 STOT SE 3; H335 Resp. Sens. 1; H334	>= 25 - < 30
Aliphatic polyisocyanate	164250-92-4	Skin Sens. 1; H317 Resp. Sens. 1; H334 Acute Tox. 4; H332 STOT SE 3; H335	>= 20 - < 25
xylene	1330-20-7 215-535-7 01-2119488216-32	Flam. Liq. 3; H226 Acute Tox. 4; H332 Acute Tox. 4; H312 Skin Irrit. 2; H315 Note C	>= 20 - < 25
4-methylpentan-2-one	108-10-1 203-550-1 01-2119473980-30	Flam. Liq. 2; H225 Acute Tox. 4; H332 Eye Irrit. 2; H319 STOT SE 3; H335	>= 5 - < 10
hexamethylene-di-isocyanate	822-06-0 212-485-8 01-2119457571-37	Acute Tox. 3; H331 Skin Irrit. 2; H315 Eye Irrit. 2; H319 Resp. Sens. 1; H334 Skin Sens. 1; H317 STOT SE 3; H335 Note 2	>= 0,1 - < 0,5
Substances with a workplace exposure limit :			
n-butyl acetate	123-86-4 204-658-1 01-2119485493-29	Flam. Liq. 3; H226 STOT SE 3; H336	>= 5 - < 10
isobutyl acetate	110-19-0 203-745-1 01-2119488971-22	Flam. Liq. 2; H225 STOT SE 3; H336 Note C	>= 5 - < 10
2-methoxy-1-methylethyl acetate	108-65-6 203-603-9 01-2119475791-29	Flam. Liq. 3; H226	>= 1 - < 5

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice	:	When symptoms persist or in all cases of doubt seek medical advice. Never give anything by mouth to an unconscious person.
If inhaled	:	Remove to fresh air. Keep patient warm and at rest. If breathing is irregular or stopped, administer artificial respiration. If unconscious, place in recovery position and seek medical advice.
In case of skin contact	:	Take off all contaminated clothing immediately. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners. Put shower on working place
In case of eye contact	:	Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart. Seek medical advice. Put eye-washer on working place Remove contact lenses.
If swallowed	:	If accidentally swallowed obtain immediate medical attention. Do NOT induce vomiting. Keep at rest.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms	:	No information available.
Risks	:	No information available.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment	:	The first aid procedure should be established in consultation with the doctor responsible for industrial medicine. Seek medical advice.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	:	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Keep containers and surroundings cool with water spray.
Unsuitable extinguishing media	:	Do NOT use water jet.

5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting	:	As the product contains combustible organic components, fire will produce dense black smoke containing hazardous products of combustion (see section 10). Exposure to decomposition products may be a hazard to health. Cool closed containers exposed to fire with water spray. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

5.3 Advice for firefighters

Special protective equipment for firefighters	:	Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions	:	Solvent vapours are heavier than air and may spread along floors. Ensure adequate ventilation. Use personal protective equipment. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Ventilate the area.

6.2 Environmental precautions

Environmental precautions	:	Try to prevent the material from entering drains or water courses. If the product contaminates rivers and lakes or drains inform respective authorities.

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up	:	Clean with detergents. Avoid solvents. 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)/concentrated (d: 0.880) ammonia solution (5 parts). A non-flammable alternative is sodium carbonate (5 parts)/water (95 parts). Pick up and transfer to properly labelled containers. Clean contaminated surface thoroughly.

Dam up.
Soak up with inert absorbent material and dispose of as hazardous waste.

6.4 Reference to other sections

Refer to section 15 for specific national regulation.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling	:	Avoid exceeding the given occupational exposure limits (see section 8). Use only in area provided with appropriate exhaust ventilation. Avoid contact with skin, eyes and clothing. Smoking, eating and drinking should be prohibited in the application area. Avoid inhalation of vapour or mist. For personal protection see section 8. Persons with a history of skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used. Thoroughly mix before using After using, store in a well-sealed container
Advice on protection against fire and explosion	:	Prevent the creation of flammable or explosive concentrations of vapour in air and avoid vapour concentration higher than the occupational exposure limits. When transferring from one container to another apply earthing measures and use conductive hose material. No sparking tools should be used. The product should only be used in areas from which all naked lights and other sources of ignition have been excluded. No smoking.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers	:	Observe label precautions. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Store between 5° an 35°C in a dry, well ventilated place away from source of heat, ignition and direct sunlight. Electrical installations / working materials must comply with the technological safety standards. Store in accordance with the particular national regulations.
Advice on common storage	:	Keep away from oxidizing agents, strongly acid or alkaline materials, as well as of amines, alcohols and water.

German storage class : 3 Flammable liquids

7.3 Specific end use(s)

: This information is not available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Components	CAS-No.	Value	Control parameters	Update	Basis
xylenes	1330-20-7	TWA	50 ppm 221 mg/m3	2000-06-16	2000/39/EC
Further information	: skin: Identifies the possibility of significant uptake through the skinIndicative				
		STEL	100 ppm 442 mg/m3	2000-06-16	2000/39/EC
Further information	: skin: Identifies the possibility of significant uptake through the skinIndicative				
n-butyl acetate	123-86-4	TWA	50 ppm	2016-03-01	ACGIH
		STEL	150 ppm	2016-03-01	ACGIH
isobutyl acetate	110-19-0	TWA	50 ppm	2016-03-01	ACGIH
		STEL	150 ppm	2016-03-01	ACGIH
4-methylpentan-2-one	108-10-1	TWA	20 ppm 83 mg/m3	2000-06-16	2000/39/EC
Further information	: Indicative				
		STEL	50 ppm 208 mg/m3	2000-06-16	2000/39/EC
Further information	: Indicative				
2-methoxy-1-methylethyl acetate	108-65-6	STEL	100 ppm 550 mg/m3	2000-06-16	2000/39/EC
Further information	: skin: Identifies the possibility of significant uptake through the skinIndicative				
		TWA	50 ppm 275 mg/m3	2000-06-16	2000/39/EC
Further information	: skin: Identifies the possibility of significant uptake through the skinIndicative				
hexamethylene diisocyanate	822-06-0	TWA	0,005 ppm	2007-01-01	ACGIH

DNEL
Polysocyanate HDI Derivative : End Use: Workers

Exposure routes: Inhalation
Potential health effects: Long-term local effects
Value: 0,5 mg/m3

End Use: Workers
Exposure routes: Inhalation
Potential health effects: Short-term local effects
Value: 1 mg/m3

4-methylpentan-2-one : End Use: Consumers
Exposure routes: Inhalation
Potential health effects: Long-term systemic effects
Value: 14,7 mg/m3

End Use: Consumers
Exposure routes: Inhalation
Potential health effects: Acute systemic effects
Value: 115,2 mg/m3

End Use: Consumers
Exposure routes: Skin contact
Potential health effects: Long-term systemic effects
Value: 4,2 mg/kg bw/day

End Use: Workers
Exposure routes: Inhalation
Potential health effects: Long-term local effects
Value: 83 mg/m3

End Use: Workers
Exposure routes: Inhalation
Potential health effects: Acute local effects
Value: 208 mg/m2

End Use: Workers
Exposure routes: Inhalation
Potential health effects: Long-term systemic effects
Value: 83 mg/m3

End Use: Workers
Exposure routes: Inhalation
Potential health effects: Acute systemic effects
Value: 208 mg/m3

End Use: Workers
Exposure routes: Skin contact
Potential health effects: Long-term systemic effects
Value: 11,8 mg/kg bw/day

hexamethylene-di-isocyanate : End Use: Workers
Exposure routes: Inhalation
Potential health effects: Acute systemic effects
Value: 0,07 mg/m3

End Use: Workers
Exposure routes: Inhalation
Potential health effects: Acute local effects
Value: 0,07 mg/m3

End Use: Workers
Exposure routes: Inhalation
Potential health effects: Long-term systemic effects
Value: 0,035 mg/m3

End Use: Workers
Exposure routes: Inhalation
Potential health effects: Long-term local effects
Value: 0,035 mg/m3

n-butyl acetate : End Use: Professional use
Exposure routes: Skin contact
Potential health effects: Local effects
Exposure time: 8 h
Value: 7 ppm

End Use: Professional use
Exposure routes: Inhalation
Potential health effects: Local effects
Value: 48 mg/m3

PNEC
Polysocyanate HDI Derivative : Marine water
Value: 0,0127 mg/l

Fresh water
Value: 0,127 mg/l

Marine sediment
Value: 26670 mg/kg

Fresh water sediment
Value: 266700 mg/kg

Intermittent use/release
Value: 1,27 mg/l

Sewage treatment plant
Value: 38,3 mg/l

Soil
Value: 53182 mg/kg

hexamethylene-di-isocyanate : Marine water
Value: 0,00774 mg/l

Fresh water
Value: 0,0774 mg/l

Marine sediment
Value: 0,001334 mg/kg

Fresh water sediment
Value: 0,01334 mg/kg

Intermittent use/release
Value: 0,774 mg/l

Sewage treatment plant
Value: 8,42 mg/l

Soil
Value: 0,0026 mg/kg

n-butyl acetate : Water
Value: 0,18 mg/l

Soil
Value: 0,093 mg/kg

8.2 Exposure controls

Engineering measures

Use only in spray paint booth or enclosure.

Personal protective equipment

Respiratory protection : In case of mist, spray or aerosol exposure wear suitable personal respiratory protection and protective suit.
Wear a positive-pressure supplied-air respirator.
Apply technical measures to comply with the occupational exposure limits.

Hand protection : For prolonged or repeated contact use protective gloves.
Chemical resistant gloves made of butyl rubber or nitrile rubber category III according to EN 374.
Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.
If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves.
Barrier creams may help to protect the exposed areas of skin, they should however not be applied once exposure has occurred.
Skin should be washed after contact.

Wash your hands and put on barrier creams

Eye protection	:	Chemical resistant goggles must be worn.
Skin and body protection	:	Skin should be washed after contact. Personnel should wear protective clothing. Flame retardant antistatic protective clothing. Workers should wear antistatic footwear.

Environmental exposure controls

General advice	:	Try to prevent the material from entering drains or water courses. If the product contaminates rivers and lakes or drains inform respective authorities.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	:	liquid
Odour	:	solvent-like
Flash point	:	> 23 - 55 °C
Ignition temperature	:	not determined
Lower explosion limit	:	No data available
Upper explosion limit	:	No data available
Auto-ignition temperature	:	Not applicable
pH	:	not determined
Freezing point	:	Not applicable
Boiling point	:	not determined
Vapour pressure	:	1,000 hPa at 50 °C
Density	:	0,9815 g/cm3
Water solubility	:	not determined
Partition coefficient: n-octanol/water	:	No data available
Solubility in other solvents	:	not determined
Flow time	:	33 s

2 mm
Method: ASTM D 1200 '82

Relative vapour density	:	Not applicable
Evaporation rate	:	not determined

9.2 Other information

Solids by weight	:	49,85 %
Volatile organic compounds (VOC) content	:	50,15 %

SECTION 10: Stability and reactivity

10.1 Reactivity

None reasonably foreseeable.

10.2 Chemical stability

The product is chemically stable.

10.3 Possibility of hazardous reactions

Hazardous reactions	:	Keep away from oxidizing agents, strongly alkaline and strongly acid materials in order to avoid exothermic reactions. Avoid moisture. Amines and alcohols cause exothermic reactions. Mixture reacts slowly with water resulting in evolution of CO2. Evolution of CO2 in closed containers causes overpressure and produces a risk of bursting.

10.4 Conditions to avoid

Conditions to avoid	:	Our products were manufactured in compliance with safety standards to avoid decomposition and degrading under the defined conditions. Taking the product type into account, it is advisable to leave the product in its original packaging thus avoiding transferring it.

10.5 Incompatible materials

Materials to avoid	:	Keep away from oxidizing agents, strongly alkaline and strongly acid materials in order to avoid exothermic reactions.

10.6 Hazardous decomposition products

Hazardous decomposition products	:	Carbon dioxide (CO2), carbon monoxide (CO), oxides of nitrogen (NOx), dense black smoke.
Thermal decomposition	:	Not applicable

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Product

Acute inhalation toxicity	:	Acute toxicity estimate: 14,1 mg/l, 4 h, vapour, Calculation method
Acute dermal toxicity	:	Acute toxicity estimate: > 2.000 mg/kg, Calculation method
Acute toxicity (other routes of administration)	:	Isocyanates may cause acute irritation and/or sensitisation of the respiratory system leading to tightness of the chest, wheeziness and an asthmatic condition., Persons allergic to isocyanates, and particularly those suffering from asthma or other respiratory conditions, should not work with isocyanates.
Skin corrosion/irritation	:	Repeated or prolonged contact with the mixture may cause removal of natural fat from the skin resulting in desiccation of the skin., The product may be absorbed through the skin.
Further information	:	The concentration of each substance should be borne in mind in assessing the toxicological effects deriving from the preparation.

Components:

xylene :

Acute dermal toxicity	:	Acute toxicity estimate: 1.100 mg/kg, Converted acute toxicity point estimate

hexamethylene-di-isocyanate :

Acute oral toxicity	:	LD50: 746 mg/kg, Rat
Acute dermal toxicity	:	LD50: 599 mg/kg, Rabbit
Skin corrosion/irritation	:	Rabbit, Result: Corrosive, OECD Test Guideline 404, 4 h
Serious eye damage/eye irritation	:	Rabbit, Result: Corrosive, OECD Test Guideline 405, 30 s

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish	:	
		Remarks:

No data is available on the product itself.

Toxicity to fish hexamethylene-di-isocyanate	:	LC50: 22 mg/l Exposure time: 96 h Species: Fish

12.2 Persistence and degradability

Biodegradability	:	No data available

12.3 Bioaccumulative potential

Bioaccumulation	:	No data available

12.4 Mobility in soil

Mobility	:	No data available

12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects

Additional ecological information	:	There is no data available for this product.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product	:	The product should not be allowed to enter drains, water courses or the soil. Disposal together with normal waste is not allowed. Special disposal required according to local regulations. Must be incinerated.
Contaminated packaging	:	Empty containers should be taken to an approved waste handling site for recycling or disposal. According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. The Waste code should be assigned in discussion between the user, the producer and the waste disposal company. The following Waste Codes are only suggestions:150110*

SECTION 14: Transport information

14.1 UN number

ADR	:	UN 1263
IMDG	:	UN 1263
IATA	:	UN 1263

14.2 Proper shipping name

ADR	PAINT RELATED MATERIAL
IMDG	PAINT RELATED MATERIAL
IATA	Paint related material

14.3 Transport hazard class(es)

ADR	:	3
IMDG	:	3
IATA	:	3

14.4 Packing group

ADR

Packing group	:	III
Classification Code	:	F1
Hazard Identification Number	:	30
Labels	:	3

IMDG

Packing group	:	III
Labels	:	3
EmS Code	:	F-E,S-E

IATA

Packing group	:	III
Labels	:	3

14.5 Environmental hazards

ADR

Environmentally hazardous : no

IMDG

Marine pollutant : no

IATA

Environmentally hazardous : no

14.6 Special precautions for user

Not applicable

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). : Not applicable

REACH - List of substances subject to authorisation (Annex XIV) : Not applicable

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII) : Banned and/or restricted

123-86-4	n-butyl acetate
108-65-6	2-methoxy-1-methylethyl acetate

MAL-Code-Number : 5-5 (1993)
980.142-m3 air/10 g

German storage class (TRGS 510) : 3: Flammable liquids

Risk classification according to VbF : Exempt
see user defined free text

Water contaminating class (Germany)	:	highly water endangering VWVWS A4

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.
Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures

15.2 Chemical safety assessment

No data is available on the product itself.

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3.

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.