MACROFAN AVANTAGE CLEAR HT HARDENER

Version 1.0 Revision Date 11.04.2019 Print Date 04.11.2019

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

1.1 Product identifier

Trade name : MACROFAN AVANTAGE CLEAR HT HARDENER

Product code : L0MH0404

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

Use of the : Paints, varnishes and enamels

Substance/Mixture

: Polivsocyanic compound - professional use Chemical nature

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 - This telephone number is available during

office hours only. (8.00-18.00)

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.

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, Respiratory

system

H335: May cause respiratory irritation.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

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Hazard pictograms







Signal word : Danger

Hazard statements : H226 Flammable liquid and vapour.

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.

EUH066Repeated exposure may cause skin dryness or

cracking.

Precautionary statements : **Prevention:**

P210 Keep away from heat, hot surfaces, sparks,

open flames and other ignition sources. No

smoking.

P261 Avoid breathing dust/ fume/ gas/ mist/

vapours/ spray.

P280 Wear protective gloves/ eye protection/ face

protection.

P284 Wear respiratory protection.

Response:

P304 + P340 + P312 IF INHALED: Remove person to fresh

air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel

unwell.

P342 + P311 If experiencing respiratory symptoms: Call a

POISON CENTER/doctor.

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

• 53880-05-0 Isophorondiisocyanate homopolymer

• 1314496-12-2 SiloxanesandSilicones,di-Me,3-hydroxypropylgroup-

terminated,ethoxylated,polymerswith5-isocyanato-1-(isocyanatomethyl)-

1,3,3-trimethy

• 822-06-0 hexamethylene-di-isocyanate

• 4098-71-9 3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate

Additional Labelling:

Restricted to professional users.

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EUH204 Contains isocyanates. May produce an allergic reaction. EUH066 Repeated exposure may cause skin dryness or cracking.

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	>= 50 - < 70
Isophorondiisocyanate homopolymer	53880-05-0 500-125-5 01-2119488734-24	Resp. Sens. 1; H334 Skin Sens. 1B; H317 STOT SE 3; H335	>= 12,5 - < 15
SiloxanesandSilicones, di-Me,3- hydroxypropylgroup- terminated,ethoxylated, polymerswith5- isocyanato-1- (isocyanatomethyl)- 1,3,3-trimethy	1314496-12-2	Skin Sens. 1; H317	>= 0,1 - < 1
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
3-isocyanatomethyl- 3,5,5- trimethylcyclohexyl isocyanate	4098-71-9 223-861-6 01-2119490408-31	Acute Tox. 3; H331 Skin Irrit. 2; H315 Eye Irrit. 2; H319 Resp. Sens. 1; H334 Skin Sens. 1; H317 STOT SE 3; H335 Aquatic Chronic 2; H411 Note 2	>= 0,1 - < 0,25
Substances with a work	place exposure limit :		

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n-butyl acetate	123-86-4 204-658-1 01-2119485493-29	Flam. Liq. 3; H226 STOT SE 3; H336	>= 5 - < 10

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

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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

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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

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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	C	AS-No.	Value	Control parameters	Update	Basis
n-butyl	12	23-86-4	TWA	50 ppm	2016-03-01	ACGIH
acetate						
			STEL	150 ppm	2016-03-01	ACGIH
hexamethylen	82	22-06-0	TWA	0,005 ppm	2007-01-01	ACGIH
e diisocyanate						
3-	40	098-71-9	TWA	0,005 ppm		ACGIH
isocyanatomet						
hyl-3,5,5-						
trimethylcyclo						
hexyl						
isocyanate						
Further		Resp. Sens	s.: Respirator	y sensitisation		
information						

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

hexamethylene-di-isocyanate : End Use: Workers

Exposure routes: Inhalation

Potential health effects: Acute systemic effects

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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

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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.

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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 hPa

at 50 °C

Density : 1,0781 g/cm3

Water solubility : not determined

Partition coefficient: n-

octanol/water

: No data available

Solubility in other solvents : n

: not determined

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Flow time : 30 s

3 mm

Method: ASTM D 1200 '82

Relative vapour density : Not applicable

Evaporation rate : not determined

9.2 Other information

Solids by weight : 70,46 %

Volatile organic compounds :

(VOC) content

29,53 %

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.

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Thermal decomposition : Not applicable

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Product

Acute inhalation toxicity : Acute toxicity estimate: 19,19 mg/l, 4 h, vapour, 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.

Repeated or prolonged contact with the mixture may cause Skin corrosion/irritation

> removal of natural fat from the skin resulting in desiccation of the skin., The product may be absorbed through the skin.

The concentration of each substance should be borne in mind Further information

in assessing the toxicological effects deriving from the

preparation.

Components:

hexamethylene-di-isocyanate:

Acute oral toxicity LD50: 746 mg/kg, Rat Acute dermal toxicity : LD50: 599 mg/kg, Rabbit

: Rabbit, Result: Corrosive, OECD Test Guideline 404, 4 h Skin corrosion/irritation 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

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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

: The product contains dangerous substances for the

environment (see chapter no 3).

The concentration of each substance should be borne in mind

in assessing the toxicological effects deriving from the

preparation.

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

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ADR : UN 1263

IMDG : UN 1263

IATA : UN 1263

14.2 Proper shipping name

ADR PAINT RELATED MATERIAL 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

Special Provisions : Special Provision 640E

IMDG

Packing group : III Labels : 3

EmS Code : F - E,S - E

IATA

Packing group : III Labels : 3

14.5 Environmental hazards

ADR

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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)

1.507.708-m3 air/10 g

German storage class

(TRGS 510)

: 3: Flammable liquids

Risk classification according

: Exempt

to VbF see user defined free text

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Water contaminating class : water endangering (Germany) : WWVWS 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.

EUH066	Repeated exposure may cause skin dryness or cracking.
H226	Flammable liquid and vapour.
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.
H411	Toxic to aquatic life with long lasting effects.

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.