

SAFETY DATA SHEET
acc. to OSHA HCS

Revision date: 22.11.2023

**1- IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/
UNDERTAKING**

Product details

Trade name: Hardener slow for 2.1 Clear

Article number: 12697

Intended use: Car refinishing Product/ Hardening agent/ Curing agent

Manufacturer/Supplier:

Chamäleon GmbH
Rudolf-Diesel-Straße, 8a,
69115 Heidelberg
Germany

Further information obtainable from: Product Safety Department

Information in case of emergency: + 49 70024112112 (CH)

2 – HAZARDS IDENTIFICATION

Classification of the substance or mixture



GHS02 Flame

Flammable Liquids 3 H226 Flammable liquid and vapor.



GHS07

Sensitization - Skin 1 H317 May cause an allergic skin reaction.

Specific Target Organ Toxicity - Single Exposure 3 H335 May cause respiratory irritation.

Label elements

GHS label elements

The product is classified and labeled according to the Globally Harmonized System (GHS).

Hazard pictograms



GHS02

GHS07

Signal word Warning

Hazard-determining components of labeling:

4-chloro-alpha,alpha,alpha-trifluorotoluene

Hexamethylene diisocyanate, oligomers

Hazard statements:

H226 Flammable liquid and vapor.

H317 May cause an allergic skin reaction.

H335 May cause respiratory irritation.

Precautionary statements:

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P261 Avoid breathing dust/fume/gas/mist/vapors/spray

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P312 Call a poison center/doctor if you feel unwell.

Classification system:

NFPA ratings (scale 0 - 4)



Health = 0

Fire = 2

Reactivity = 0

HMIS-ratings (scale 0 - 4)



Health = 0

Fire = 2

Reactivity = 0

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

3- COMPOSITION/INFORMATION ON INGREDIENTS

Chemical characterization: Mixtures

Description: Mixture of the substances listed below with nonhazardous additions.

Dangerous components:		
98-56-6	4-chloro-alpha,alpha,alpha-trifluorotoluene	50-100%
28182-81-2	Hexamethylene diisocyanate, oligomers	25-50%
123-86-4	n-Butyl acetate	2.5-<5%
112-07-2	2-Butoxyethyl acetate	2.5-<5%

4- FIRST - AID MEASURES

Description of first aid measures

General information: Immediately remove any clothing soiled by the product.

After inhalation:

Supply fresh air and to be sure call for a doctor.

In case of unconsciousness place patient stably in side position for transportation.

After skin contact: Immediately rinse with water.

After eye contact:

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

After swallowing: If symptoms persist consult doctor.

Information for doctor:

Most important symptoms and effects, both acute and delayed No further relevant information available.

Indication of any immediate medical attention and special treatment needed

No further relevant information available.

5- FIRE - FIGHTING MEASURES

Extinguishing media:

Suitable extinguishing agents:

CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

For safety reasons unsuitable extinguishing agents: Water with full jet

Special hazards arising from the substance or mixture No further relevant information available.

Advice for firefighters: Protective equipment: No special measures required.

6- ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

Wear protective equipment. Keep unprotected persons away.

Environmental precautions: Do not allow to enter sewers/ surface or ground water.

Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to section 13.

Ensure adequate ventilation.

Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

Protective Action Criteria for Chemicals

PAC-1:		
28182-81-2	Hexamethylene diisocyanate, oligomers	7.8 mg/m ³
123-86-4	n-Butyl acetate	5 ppm
112-07-2	2-Butoxyethyl acetate	15 ppm
822-06-0	hexamethylene-di-isocyanate	0.018 ppm
PAC-2:		
28182-81-2	Hexamethylene diisocyanate, oligomers	86 mg/m ³
123-86-4	n-Butyl acetate	200 ppm
112-07-2	2-Butoxyethyl acetate	35 ppm
822-06-0	hexamethylene-di-isocyanate	0.2 ppm
PAC-3:		
28182-81-2	Hexamethylene diisocyanate, oligomers	510 mg/m ³
123-86-4	n-Butyl acetate	3000* ppm
112-07-2	2-Butoxyethyl acetate	210 ppm
822-06-0	hexamethylene-di-isocyanate	3 ppm

7 – HANDLING AND STORAGE

Handling:

Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

Information about protection against explosions and fires:

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

Conditions for safe storage, including any incompatibilities

Storage:

Requirements to be met by storerooms and receptacles: No special requirements.

Information about storage in one common storage facility: Store away from foodstuffs.

Further information about storage conditions: Keep receptacle tightly sealed.

Storage class: 3

Specific end use(s) No further relevant information available.

8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

Additional information about design of technical systems: No further data; see section 7.

Control parameters

Components with limit values that require monitoring at the workplace:

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.

At this time, the other constituents have no known exposure limits.

123-86-4 n-Butyl acetate	
PEL	Long-term value: 710 mg/m ³ , 150 ppm
REL	REL Short-term value: 950 mg/m ³ , 200 ppm
TLV	Long-term value: 710 mg/m ³ , 150 ppm
	Short-term value: 150 ppm
	Long-term value: 50 ppm
112-07-2 2-Butoxyethyl acetate	
PEL	Long-term value: 33 mg/m ³ , 5 ppm
TLV	Long-term value: 20 ppm
	A3

Additional information: The lists that were valid during the creation were used as basis.

Exposure controls

Personal protective equipment:

General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.

Breathing equipment:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

Protection of hands:

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Eye protection:

Tightly sealed goggles

9 – PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

General Information

Appearance:

Form:	<i>Fluid</i>
Color:	<i>According to product specification</i>
Odor:	<i>Characteristic</i>
Odor threshold:	<i>Not determined.</i>
pH-value:	<i>Not determined.</i>
Change in condition	
Melting point/Melting range:	<i>Undetermined.</i>
Boiling point/Boiling range:	<i>139 °C (282.2 °F)</i>
Flash point:	<i>39 °C (102.2 °F) (DIN 53213)</i>
Flammability (solid, gaseous):	<i>Flammable.</i>
Auto igniting:	<i>280 °C (536 °F) (DIN 51794)</i>
Decomposition temperature:	<i>Not determined.</i>

Ignition temperature:	<i>Product is not selfigniting.</i>
Danger of explosion:	<i>Product is not explosive. However, formation of explosive air/vapor mixtures are possible.</i>
Explosion limits:	
Lower:	<i>Not determined.</i>
Upper:	<i>Not determined.</i>
Vapor pressure at 50 °C (122 °F):	<i>38.6 hPa (29 mm Hg)</i>
Density at 20 °C (68 °F):	<i>1.233 g/cm³ (10.289 lbs/gal) (DIN 53217)</i>
Relative density	<i>Not determined.</i>
Vapor density	<i>Not determined.</i>
Evaporation rate	<i>Not determined.</i>
Solubility in / Miscibility with	
Water:	<i>Not miscible or difficult to mix.</i>
Partition coefficient (n-octanol/water):	<i>Not determined.</i>
Viscosity:	
Dynamic:	<i>Not determined.</i>
Kinematic at 20 °C (68 °F):	<i>10-15 s (DIN 53211/4)</i>
Solvent content:	
VOC content:	<i>6.70 % 174 g/l / 1.4 lb/gal</i>
Solids content (weight-%):	<i>36.3 %</i>

Other information No further relevant information available.

10- STABILITY AND REACTIVITY

Reactivity No further relevant information available.

Chemical stability

Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.

Possibility of hazardous reactions No dangerous reactions known.

Conditions to avoid No further relevant information available.

Incompatible materials: No further relevant information available.

Hazardous decomposition products: Carbon monoxide

11- TOXICOLOGICAL INFORMATION

Information on toxicological effects

Acute toxicity:

Primary irritant effect:

on the skin: No irritant effect.

on the eye: No irritating effect.

Sensitization: Sensitization possible through skin contact.

Additional toxicological information:

The product shows the following dangers according to internally approved calculation methods for preparations:

Irritant

Carcinogenic categories

IARC (International Agency for Research on Cancer)		
98-56-6	4-chloro-alpha,alpha,alpha-trifluorotoluene	2B
NTP (National Toxicology Program)		
None of the ingredients is listed.		
OSHA-Ca (Occupational Safety & Health Administration)		
None of the ingredients is listed.		

12 – ECOLOGICAL INFORMATION

Toxicity

Aquatic toxicity: No further relevant information available.

Persistence and degradability No further relevant information available.

Behavior in environmental systems:

Bioaccumulative potential No further relevant information available.

Mobility in soil No further relevant information available.

Additional ecological information:

General notes:

Water hazard class 2 (Self-assessment): hazardous for water

Do not allow product to reach ground water, water course or sewage system.

Danger to drinking water if even small quantities leak into the ground.

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable

Other adverse effects No further relevant information available.

13- DISPOSAL CONSIDERATIONS

Waste treatment methods

Recommendation:

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

Uncleaned packagings:

Recommendation: Disposal must be made according to official regulations.

14- TRANSPORT INFORMATION

UN number or ID number

ADR, IMDG, IATA

UN1263

UN proper shipping name

DOT

PAINT RELATED MATERIAL

ADR

UN1263 PAINTRELATED MATERIAL ,
ENVIRONMENTALLY HAZARDOUS

IMDG

PAINTRELATED MATERIAL
(CHLOROBENZOTRIFLUORIDES), MARINE
POLLUTANT

IATA

PAINT RELATED MATERIAL

Transport hazard class(es)

DOT



Class

3 Flammable liquids.

Label

3

ADR



Class
Label

3(F) Flammable liquids.
3

IMDG



Class
Label

3 Flammable liquids.
3

IATA



Class
Label

3 Flammable liquids.
3

Packing group

DOT,ADR, IMDG, IATA

III

Environmental hazards:

Product contains environmentally hazardous substances: 4-chloro-alpha,alpha,alpha-trifluorotoluene

Marine pollutant:

No
Yes (DOT)
Symbol (fish and tree)

Special marking (ADR):

Special precautions for user

Symbol (fish and tree)
Warning: Flammable liquids

Hazard identification number (Kemler code): 30

EMS Number: F-E,S-E
Stowage Category: A
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable.

Transport/Additional information:

DOT

Remarks: Special marking with the symbol (fish and tree).

ADR

Limited quantities (LQ) 5L

IMDG

Limited quantities (LQ) 5L

UN "Model Regulation": UN 1263 PAINT RELATED MATERIAL, 3 , III , ENVIRONMENTALLY HAZARDOUS

15 – REGULATORY INFORMATION

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

Section 355 (extremely hazardous substances):	
None of the ingredients is listed.	
Section 313 (Specific toxic chemical listings):	
112-07-2	2-Butoxyethyl acetate
Proposition 65	
Chemicals known to cause cancer:	
98-56-6	4-chloro-alpha,alpha,alpha-trifluorotoluene
Chemicals known to cause reproductive toxicity for females:	
None of the ingredients is listed.	
Chemicals known to cause reproductive toxicity for males:	
None of the ingredients is listed.	
Chemicals known to cause developmental toxicity:	

None of the ingredients is listed.

Carcinogenicity categories

EPA (Environmental Protection Agency)

None of the ingredients is listed.

TLV (Threshold Limit Value)

112-07-2	2-Butoxyethyl acetate	A3	2.5-<5%
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NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

GHS label elements

The product is classified and labeled according to the Globally Harmonized System (GHS).

Hazard pictograms



GHS02

GHS07

Hazard statements:

- H226 Flammable liquid and vapor.
- H317 May cause an allergic skin reaction.
- H335 May cause respiratory irritation.

Precautionary statements:

- P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
- P261 Avoid breathing dust/fume/gas/mist/vapors/spray
- P280 Wear protective gloves/protective clothing/eye protection/face protection.
- P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P312 Call a poison center/doctor if you feel unwell.

National regulations:

Additional classification according to Decree on Hazardous Materials:

Class	Share in %
NK	50-100

Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16-OTHER INFORMATION

Contact:

Date of preparation / last revision 11/22/2023

Abbreviations and acronyms:

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organisation

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Flammable Liquids 3: Flammable liquids – Category 3

Sensitization - Skin 1: Skin sensitisation – Category 1

Specific Target Organ Toxicity - Single Exposure 3: Specific target organ toxicity (single exposure) – Category 3

The information contained in these sheets is based on the present state of knowledge and current national legislation. It provides guidance on health, safety and environmental aspects and should not be construed as any guarantee of technical performance or suitability for particular applications.