

SAFETY DATA SHEET

according to Regulation No. 1907/2006 (REACH) and
Commission Regulation (EU) 2020/878

Hardener HG 700 F

Revision: 2.1
Issue date: 2015-07-15
Revision date: 2021-06-16

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

1.1 Product identifier

Chemical name/ trade name: **Hardener HG 700 F**
 UFI: VCRV-T08G-P00C-KW96
 Producer: **GRM Systems s.r.o.**
 Address: **Olomouc, 77900, Technologická 886/28**
 Distributor: **GRM Systems s.r.o.**
 Address: **Olomouc, 77900, Technologická 886/28**

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

Intended use: Hardener for epoxy resin.
 Uses advised against: The product must not be used in ways other than those listed in section 1.

1.3 Details of the supplier of the safety data sheet

Supplier of SDS: GRM Systems s.r.o.
 Address: Olomouc, 77900, Technologická 886/28
 Identification No.: 26916835
 Tel: +420 585 431 734
 www: <http://www.grm-systems.cz/>
 Responsible person for this SDS: Anna Šťáhelová

1.4 Emergency telephone number

Toxicological Information Centre: City Hospital, Dudley Rd, Birmingham, United Kingdom, Tel.: +44 121 507 4123, 844 892 0111

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to the EC Regulation No. 1272/2008 (CLP):

Chronic (long term) aquatic hazard, category 3, H412 Harmful to aquatic life with long lasting effects.
 Serious eye damage, category 1, H318 Causes serious eye damage.
 Skin corrosion, category 1, H314 Causes severe skin burns and eye damage.
 Skin sensitisation, category 1, H317 May cause an allergic skin reaction.
 Acute Toxicity, category 4, H302/312 Harmful if swallowed or in contact with skin.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 [CLP]:

Hazard pictogram(s):



Signal word(s): DANGER

Contain: 3-aminomethyl-3,5,5-trimethylcyclohexylamine, Benzyl alcohol, 2-piperazin-1-ylethylamine

Hazard statement(s):

H302/312 Harmful if swallowed or in contact with skin.
 H314 Causes severe skin burns and eye damage.
 H317 May cause an allergic skin reaction.
 H412 Harmful to aquatic life with long lasting effects.

SAFETY DATA SHEET

according to Regulation No. 1907/2006 (REACH) and
Commission Regulation (EU) 2020/878

Hardener HG 700 F

Revision: 2.1
Issue date: 2015-07-15
Revision date: 2021-06-16

Precautionary statement(s):

P260 Do not breathe vapors.
P264 Wash hands thoroughly with soap after handling.
P280 Wear protective gloves / protective clothing / eye protection.
P301/330/331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303/361/353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P305/351/338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Call a physician immediately.
P405 Store locked up.
P501 Dispose of contents / container according to the instructions in the safety data sheet section 13.

Supplemental information:

2.3 Other hazards

This mixture does not contain any substances which are classified as PBT or vPvB
This product does not contain SVHC.
This product does not contain endocrine disruptors in a concentration of 0.1% by weight or higher.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Name of the component	Content (weight %)	CAS EINECS Index N° Reg. Number	Classification according to Regulation (EC) No 1278/2008 (CLP)	
3-aminomethyl-3,5,5-trimethylcyclohexylamine	55-75	2855-13-2 220-666-8 612-067-00-9 01-2119514687-32-0000	Acute Tox. 4 Acute Tox. 4 Aquatic Chronic 3 Skin Corr. 1B Skin Sens. 1	H312 H302 H412 H314 H317
Benzyl alcohol	5-15	100-51-6 202-859-9 603-057-00-5 01-2119492630-38-0000	Acute Tox. 4 Acute Tox. 4	H332 H302
2-piperazin-1-ylethylamine	20-30	140-31-8 205-411-0 612-105-00-4 01-2119471486-30-0002	Acute Tox. 4 Acute Tox. 4 Aquatic Chronic 3 Skin Corr. 1B Skin Sens. 1	H312 H302 H412 H314 H317
2,2',2''-nitrilotriethanol	5-15	102-71-6 203-049-8 01-2119486482-31-0000		

For full text of H-statements see SECTION 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice:

In case of accident or if you feel unwell, seek medical advice immediately (show the safety data sheet or label if possible).

SAFETY DATA SHEET

according to Regulation No. 1907/2006 (REACH) and
Commission Regulation (EU) 2020/878

Hardener HG 700 F

Revision: 2.1
Issue date: 2015-07-15
Revision date: 2021-06-16

Inhalation:	Pause exposure. Move the affected person to fresh air quickly and for your own safety, do not let him walk! · Depending on the situation, it is recommended to rinse the oral cavity or nose with water · Change the victim if the substance is affected by clothing · Secure the victim against colds · Call an ambulance if necessary · or provide medical treatment due to the need for further monitoring for at least 24 hours.
Skin contact:	Take off contaminated clothing. Wash the affected area with plenty of lukewarm water. If there is no skin injury, it is advisable to use soap, soap solution or shampoo. Seek medical attention.
Eye contact:	Immediately flush eyes with running water, keep eyelids open (even by force); if the affected person has contact lenses, remove them immediately. Rinse for 10-30 minutes from the inner corner to the outer one so that the other eye is not affected. Never neutralize! Depending on the situation, call an ambulance or arrange for medical treatment as soon as possible. Everyone must be sent for examination, even in the event of a small impact.
Ingestion:	DO NOT INDUCE VOMITING! There is a risk of perforation of the esophagus and stomach! IMMEDIATELY RINSE MOUTH WITH WATER AND DRINK 2-5 dl of cold water to reduce the thermal effect of the caustic. Due to the almost immediate effect on the mucous membranes, it is better to give tap water quickly and not delay in finding chilled liquids - with every minute of delay, the condition of the mucosa is irreparably damaged! Sodium or mineral water from which carbon dioxide gas may be released are not suitable. The affected person must not be forced to drink, especially if he already has pain in his mouth or throat. In this case, only allow the victim to rinse the mouth with water. DO NOT SUBMIT ACTIVATED CARBON! (blackening makes it more difficult to examine the condition of the mucous membranes of the digestive tract and has no beneficial effect on acids and alkalis). Do not give anything by mouth if the victim is unconscious or has convulsions. Depending on the situation, call an ambulance or get medical attention as soon as possible.
Protection of first aiders:	When providing first aid, it is necessary to ensure the safety of the rescuer and the rescued.

4.2 Most important symptoms and effects, both acute and delayed

No data available.

4.3 Indication of any immediate medical attention and special treatment needed

Symptomatic treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media: Foam, extinguishing powder, CO₂, water mist.

Unsuitable extinguishing media: Direct water flow - could cause fire to spread.

5.2 Special hazards arising from the substance or mixture

Combustion products and hazardous gases: smoke, carbon monoxide, carbon dioxide.

5.3 Advice for firefighters

Respiratory units exposed to smoke or vapors must be equipped with respiratory and eye protection devices. When using in enclosed areas, an insulating respirator must be used. Containers exposed to fire cool with water mist. Collect extinguishing water separately, and avoid its penetration into the soil and water. Chemical protective clothing (EN 469).

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

SAFETY DATA SHEET

according to Regulation No. 1907/2006 (REACH) and
Commission Regulation (EU) 2020/878

Hardener HG 700 F

Revision: 2.1
Issue date: 2015-07-15
Revision date: 2021-06-16

Wear suitable protective clothing, replace contaminated clothing. Avoid contact with skin and eyes, contamination of clothes and shoes. Ensure ventilation of the affected area. All persons who do not participate in rescue operations to a safe distance.

6.2 Environmental precautions

Prevent leakage into the environment, avoid ingress into surface water and sewers, soil and land. In case of leakage into the sewage system or water course, inform immediately its administrator, the police, the fire brigade or the environmental department.

6.3 Methods and material for containment and cleaning up

In case of leakage, localize and, if possible, absorb / remove mechanically. Residues or smaller amounts sweep / get absorbed into a suitable absorbent (universal sorbent, diatomaceous earth, soil, sand) and place in suitable containers and labeled for disposal transmit in accordance with applicable regulations.

6.4 Reference to other sections

See section 7, 8 a 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Use appropriate PPE. Use only in well-ventilated areas

7.2 Conditions for safe storage, including any incompatibilities

Store in well sealed original containers in dry, cool and well-ventilated areas. Store in a vertical position to prevent leakage and dripping. Keep away from food, feed and medication.

7.3 Specific end use(s)

See section 1.2.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Exposure limits: According to national legislation of target country.

Substance	CAS	Permissible exposure limits (mg/m ³)	Maximum permissible concentration (mg/m ³)	Note
Benzyl-alcohol	100-51-6	40	80	
2,2', 2'-nitrioltriethanol	102-71-6	5	10	<i>D - during exposure significantly substances penetrates to the skin</i>

Substances with Community Exposure Limits: Union occupational exposure limit values in accordance with Directive 2000/39/EC (as amended).

Substance	CAS	Limit values		Note
		OEL (mg/m ³)	STEL (mg/m ³)	
No data available.				

DNEL:

SAFETY DATA SHEET

according to Regulation No. 1907/2006 (REACH) and
Commission Regulation (EU) 2020/878

Hardener HG 700 F

Revision: 2.1
Issue date: 2015-07-15
Revision date: 2021-06-16

3-aminomethyl-3,5,5-trimethylcyclohexylamine (CAS: 2855-13-2)

Exposed group and route of exposure	Duration of exposure	Type of effect	Unit	Value
Workers				
Inhalation	Long-term (chronic)	systemic	mg/m ³	-
		local	mg/m ³	0.073
Consumers				
Oral	Long-term (chronic)	systemic	mg/kg _{bw/d}	0.526

Benzyl alcohol (CAS: 100-51-6)

Exposed group and route of exposure	Duration of exposure	Type of effect	Unit	Value
Workers				
Inhalation	Long-term (chronic)	systemic	mg/m ³	22
Dermal	Long-term (chronic)	systemic	mg/kg _{bw/d}	8
Consumers				
Inhalation	Long-term (chronic)	systemic	mg/m ³	5.4
Dermal	Long-term (chronic)	systemic	mg/kg _{bw/d}	4
Oral	Long-term (chronic)	systemic	mg/kg _{bw/d}	4

2-piperazin-1-ylethylamine (CAS: 140-31-8)

Exposed group and route of exposure	Duration of exposure	Type of effect	Unit	Value
Workers				
Inhalation	Long-term (chronic)	systemic	mg/m ³	10.6
		local	mg/m ³	0.015
Dermal	Long-term (chronic)	systemic	mg/kg _{bw/d}	3.33
Consumers				

2,2',2''-nitrioltriethanol (CAS: 102-71-6)

Exposed group and route of exposure	Duration of exposure	Type of effect	Unit	Value
Workers				
Inhalation	Long-term (chronic)	systemic	mg/m ³	-
		local	mg/m ³	1
Dermal	Long-term (chronic)	systemic	mg/kg _{bw/d}	7.5
		local	mg/kg _{bw/d}	140 µg/cm ²
Consumers				
Inhalation	Long-term (chronic)	systemic	mg/m ³	-
		local	mg/m ³	0.4
Dermal	Long-term (chronic)	systemic	mg/kg _{bw/d}	2.66
		local	mg/kg _{bw/d}	70 µg/cm ²

SAFETY DATA SHEET

according to Regulation No. 1907/2006 (REACH) and
Commission Regulation (EU) 2020/878

Hardener HG 700 F

Revision: 2.1
Issue date: 2015-07-15
Revision date: 2021-06-16

Oral	Long-term (chronic)	systemic	mg/kg _{bw/d}	3.3
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PNEC:

3-aminomethyl-3,5,5-trimethylcyclohexylamine (CAS: 2855-13-2)

Component of the environment	PNEC	Unit	Value	
Water environment	Freshwater	PNEC _{water, fresh.}	mg/L	0.06
	Freshwater, occasional leakage	PNEC _{water, fresh.}	mg/L	0.23
	Freshwater sediment	PNEC _{sed., fresh.}	mg/kg _{sediment dw}	5.784
	Seawater	PNEC _{water, mar.}	mg/L	0.006
	Marine sediment	PNEC _{sed., mar.}	mg/kg _{sediment dw}	0.578
Microbiological activity	Wastewater treatment plant	PNEC _{sew. treat.}	mg/L	3.18
Terrestrial environment / organisms	Soil	PNEC _{soil}	mg/kg _{soil dw}	1.121

Benzyl alcohol (CAS: 100-51-6)

Component of the environment	PNEC	Unit	Value	
Water environment	Freshwater	PNEC _{water, fresh.}	mg/L	1
	Freshwater, occasional leakage	PNEC _{water, fresh.}	mg/L	2.3
	Freshwater sediment	PNEC _{sed., fresh.}	mg/kg _{sediment dw}	5.27
	Seawater	PNEC _{water, mar.}	mg/L	0.1
	Marine sediment	PNEC _{sed., mar.}	mg/kg _{sediment dw}	0.527
Microbiological activity	Wastewater treatment plant	PNEC _{sew. treat.}	mg/L	39
Terrestrial environment / organisms	Soil	PNEC _{soil}	mg/kg _{soil dw}	0.456

2-piperazin-1-ylethylamine (CAS: 140-31-8)

Component of the environment	PNEC	Unit	Value	
Water environment	Freshwater	PNEC _{water, fresh.}	mg/L	0.058
	Freshwater, occasional leakage	PNEC _{water, fresh.}	mg/L	0.58
	Freshwater sediment	PNEC _{sed., fresh.}	mg/kg _{sediment dw}	215
	Seawater	PNEC _{water, mar.}	mg/L	0.006
	Marine sediment	PNEC _{sed., mar.}	mg/kg _{sediment dw}	21.5
Microbiological activity	Wastewater treatment plant	PNEC _{sew. treat.}	mg/L	250
Terrestrial environment / organisms	Soil	PNEC _{soil}	mg/kg _{soil dw}	1

2,2',2''-nitrilotriethanol (CAS: 102-71-6)

Component of the environment	PNEC	Unit	Value	
Water environment	Freshwater	PNEC _{water, fresh.}	mg/L	0.32
	Freshwater, occasional leakage	PNEC _{water, fresh.}	mg/L	5.12
	Freshwater sediment	PNEC _{sed., fresh.}	mg/kg _{sediment dw}	1.7
	Seawater	PNEC _{water, mar.}	mg/L	0.032
	Marine sediment	PNEC _{sed., mar.}	mg/kg _{sediment dw}	0.17
Microbiological activity	Wastewater treatment plant	PNEC _{sew. treat.}	mg/L	10
Terrestrial environment / organisms	Soil	PNEC _{soil}	mg/kg _{soil dw}	0.151

SAFETY DATA SHEET

according to Regulation No. 1907/2006 (REACH) and
Commission Regulation (EU) 2020/878

Hardener HG 700 F

Revision: 2.1
Issue date: 2015-07-15
Revision date: 2021-06-16

8.2 Exposure controls

Technical measures: Technical measures and appropriate work procedures take precedence over personal protective equipment. Observe the usual hygiene principles. Do not eat, drink, smoke. Before breaks and after work wash your hands with warm water and soap.

Individual protection measures

Respiratory protection: If the exposure limits are exceeded, when using dust, fog, aerosol, use a suitable filter (type ABEK -EN 14387+A1 - anti-gas and combined filters, type P -EN 143 - particle filters, type FFP3 / FFP2 - EN 149+A1 - Particle-based half masks; EN 142 - mouth masks).

Hand protection: Protective working gloves (EN 374). Observe the manufacturer's exact instructions, including the time of use. Replace damaged gloves.

Eye / face protection: Safety glasses with side-plates or facial shields (EN 166).

Skin protection: Working clothes (EN ISO 13688) and footwear (EN ISO 20347). Protective clothing against liquid chemicals (EN 14605). Protective clothing against chemicals (EN ISO 14325).

Thermal hazards: No data available.

Environmental exposure controls: Avoid unnecessary releases into the environment.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state: Liquid

Colour: Light blue

Odour: No data available.

Odour threshold: No data available.

pH : 11

Melting point / freezing point (°C): No data available.

Boiling point or initial boiling point and boiling range (°C): 200

Flash point (°C): 110

Evaporation rate: No data available.

Flammability (gases, liquids and solids): No data available.

Lower and upper explosion limit: No data available.

Vapour pressure (20 °C): No data available.

Vapour pressure (50 °C): No data available.

Relative vapour density: No data available.

Density and/or relative density (g/cm³, 20 °C): 0.965

Solubility (20 °C): No data available.

Partition coefficient n-octanol/water (log value): No data available.

Auto-ignition temperature: No data available.

Decomposition temperature: No data available.

Kinematic viscosity: No data available.

Refractive index (20 °C): No data available.

Oxidising properties: No data available.

Explosive properties: No data available.

9.2 Other information

VOC (%): 0

Dry matter content: No data available.

Additional information:

9.2.1 Information with regard to physical hazard classes

SAFETY DATA SHEET

according to Regulation No. 1907/2006 (REACH) and
Commission Regulation (EU) 2020/878

Hardener HG 700 F

Revision: 2.1
Issue date: 2015-07-15
Revision date: 2021-06-16

The product has no physical hazards.

9.2.2 Other safety characteristics:

mechanical sensitivity: No data available.
self-accelerating polymerisation: No data available.
temperature:
formation of explosible dust/air mixtures: No data available.

acid/alkaline reserve: No data available.
evaporation rate: No data available.
miscibility: No data available.
conductivity: No data available.
corrosiveness: No data available.
gas group: No data available.
redox potential: No data available.
radical formation potential: No data available.
photocatalytic properties: No data available.

SECTION 10: Stability and reactivity

- 10.1 Reactivity** Not expected under proper conditions of use.
- 10.2 Chemical stability** Stable under normal conditions.
- 10.3 Possibility of hazardous reactions** Dangerous reactions are not known.
- 10.4 Conditions to avoid** Comply with the handling and storage conditions set out in Section 7.
- 10.5 Incompatible materials** Strong oxidizing agents, strong acids, strong alkalines.
- 10.6 Hazardous decomposition products** Hazardous decomposition products are not known.

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008 Individual components

3-aminomethyl-3,5,5-trimethylcyclohexylamine (CAS: 2855-13-2)

Acute toxicity:

Test type	Results	Exposure	Tested organisms
OECD 401, key study	1 030 mg/kg bw	oral: gavage	rat
OECD 402, key study	> 2 000 mg/kg bw	dermal	rat
OECD 403, key study	>= 1.07 - <= 5.01 mg/L air (analytical) > 5.01 mg/L air (analytical) > 5.01 mg/L air (analytical)	inhalation: aerosol	rat

Serious eye damage / irritation:

Test type	Results	Exposure	Tested organisms
	No data available.		

Skin corrosion / irritation:

SAFETY DATA SHEET

according to Regulation No. 1907/2006 (REACH) and
Commission Regulation (EU) 2020/878

Hardener HG 700 F

Revision: 2.1
Issue date: 2015-07-15
Revision date: 2021-06-16

Test type	Results	Exposure	Tested organisms
	No data available.		

Respiratory or skin sensitisation:

Test type	Results	Exposure	Tested organisms
	No data available.		

STOT - single exposure:

Test type	Results	Exposure	Tested organisms
	No data available.		

STOT - repeated exposure:

Test type	Results	Exposure	Tested organisms
OECD 408, key study	160 mg/kg bw/day (nominal), LOAEL 59 mg/kg bw/day (actual dose received), NOAEL 62 mg/kg bw/day (actual dose received), NOAEL	oral	rat
supporting study	18 mg/m ³ air, LOEC	inhalation	rat

Carcinogenicity:

Test type	Results	Exposure	Tested organisms
	No data available.		

Germ cell mutagenicity:

Test type	Results	Exposure	Tested organisms
OECD 474, key study	negative	oral: unspecified	mouse

Reproductive toxicity:

Test type	Results	Exposure	Tested organisms
OECD 421, supporting study	> 160 mg/kg bw/day, NOAEL > 160 mg/kg bw/day, NOAEL	oral: drinking water	rat

Aspiration hazard:

Test type	Results	Exposure	Tested organisms
	No data available.		

Benzyl alcohol (CAS: 100-51-6)

Acute toxicity:

Test type	Results	Exposure	Tested organisms
key study	1.55 mL/kg bw, LD50 1 mL/kg bw, other:	oral: gavage	rat
weight of evidence	> 2 000 mg/kg bw, LD50	dermal	rabbit
OECD 403, key study	> 4 178 mg/m ³ air, LC50 3 297 mg/m ³ air, other:	inhalation: aerosol	rat

SAFETY DATA SHEET

according to Regulation No. 1907/2006 (REACH) and
Commission Regulation (EU) 2020/878

Hardener HG 700 F

Revision: 2.1
Issue date: 2015-07-15
Revision date: 2021-06-16

Serious eye damage / irritation:

Test type	Results	Exposure	Tested organisms
other information	moderately irritating	Eye	rabbit

Skin corrosion / irritation:

Test type	Results	Exposure	Tested organisms
other information	moderately irritating	Skin	guinea pig

Respiratory or skin sensitisation:

Test type	Results	Exposure	Tested organisms
weight of evidence	GHS criteria not met	Skin	other:

STOT - single exposure:

Test type	Results	Exposure	Tested organisms
	No data available.		

STOT - repeated exposure:

Test type	Results	Exposure	Tested organisms
key study	400 mg/kg bw/day (actual dose received), NOAEL	oral	rat
OECD 412, key study	1 072 mg/m ³ air (analytical), NOAEC	inhalation	rat

Carcinogenicity:

Test type	Results	Exposure	Tested organisms
other information	other: >= 10 - <= 15, other:	in-vitro test	other:

Germ cell mutagenicity:

Test type	Results	Exposure	Tested organisms
other information	other:	oral: feed	Drosophila melanogaster

Reproductive toxicity:

Test type	Results	Exposure	Tested organisms
key study	200 mg/kg bw/day (actual dose received), NOAEL 800 mg/kg bw/day (actual dose received), NOAEL	oral: gavage	mouse

Aspiration hazard:

Test type	Results	Exposure	Tested organisms
	No data available.		

2-piperazin-1-ylethylamine (CAS: 140-31-8)

Acute toxicity:

Test type	Results	Exposure	Tested organisms
key study	ca. 2 097 mg/kg bw, LD50	oral: gavage	rat

SAFETY DATA SHEET

according to Regulation No. 1907/2006 (REACH) and
Commission Regulation (EU) 2020/878

Hardener HG 700 F

Revision: 2.1
Issue date: 2015-07-15
Revision date: 2021-06-16

key study	866 mg/kg bw, LD50	dermal	rabbit
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Serious eye damage / irritation:

Test type	Results	Exposure	Tested organisms
key study	highly irritating	Eye	rabbit

Skin corrosion / irritation:

Test type	Results	Exposure	Tested organisms
key study	other: Severe damage to the belly	Skin	rabbit

Respiratory or skin sensitisation:

Test type	Results	Exposure	Tested organisms
OECD 406, key study	Category 1B (indication of skin sensitising potential) based on GHS criteria	Skin	guinea pig

STOT - single exposure:

Test type	Results	Exposure	Tested organisms
	No data available.		

STOT - repeated exposure:

Test type	Results	Exposure	Tested organisms
OECD 422, key study	2 000 mg/L drinking water, NOAEL	oral	rat
OECD 413, key study	0.2 mg/m ³ air (nominal), NOEC 53.5 mg/m ³ air, NOEC	inhalation	rat
OECD 410, key study	>= 1 000 mg/kg bw/day (nominal), NOEL	dermal	rat

Carcinogenicity:

Test type	Results	Exposure	Tested organisms
	No data available.		

Germ cell mutagenicity:

Test type	Results	Exposure	Tested organisms
key study	negative	intraperitoneal	mouse

Reproductive toxicity:

Test type	Results	Exposure	Tested organisms
OECD 422, key study	8 000 mg/L drinking water, NOAEC 8 000 ppm, NOEL	oral: drinking water	rat

Aspiration hazard:

Test type	Results	Exposure	Tested organisms
	No data available.		

SAFETY DATA SHEET

according to Regulation No. 1907/2006 (REACH) and
Commission Regulation (EU) 2020/878

Hardener HG 700 F

Revision: 2.1
Issue date: 2015-07-15
Revision date: 2021-06-16

2,2',2''-nitrioltriethanol (CAS: 102-71-6)

Acute toxicity:

Test type	Results	Exposure	Tested organisms
OECD 401, key study	6 400 mg/kg bw, LD50	oral: gavage	rat
OECD 402, key study	> 2 000 mg/kg bw	dermal	rabbit

Serious eye damage / irritation:

Test type	Results	Exposure	Tested organisms
OECD 405, key study	GHS criteria not met	Eye	rabbit

Skin corrosion / irritation:

Test type	Results	Exposure	Tested organisms
OECD 404, key study	GHS criteria not met	Skin	rabbit

Respiratory or skin sensitisation:

Test type	Results	Exposure	Tested organisms
OECD 406, key study	GHS criteria not met	Skin	guinea pig

STOT - single exposure:

Test type	Results	Exposure	Tested organisms
	No data available.		

STOT - repeated exposure:

Test type	Results	Exposure	Tested organisms
OECD 408, key study	1 000 mg/kg bw/day (nominal), NOAEL	oral	rat
OECD 412, key study	500 mg/m ³ air, NOAEC 20 mg/m ³ air, NOAEC <= 20 mg/m ³ air, NOAEC 14.1 mg/m ³ air, BMCL05 14.8 mg/m ³ air, BMCL05	inhalation	rat
OECD 411, key study	125 mg/kg bw/day, NOAEL 250 mg/kg bw/day, NOAEL 125 mg/kg bw/day, NOAEL 500 mg/kg bw/day, NOAEL	dermal	rat

Carcinogenicity:

Test type	Results	Exposure	Tested organisms
supporting study	2 % in drinking water (corresponding to 3200 mg/kg bw/day), NOAEL	oral: drinking water	mouse
OECD 451, key study	250 mg/kg bw/day (nominal), NOAEL 125 mg/kg bw/day, NOAEL 63 mg/kg bw/day, NOAEL < 63 mg/kg bw/day, NOAEL	dermal	rat

SAFETY DATA SHEET

according to Regulation No. 1907/2006 (REACH) and
Commission Regulation (EU) 2020/878

Hardener HG 700 F

Revision: 2.1
Issue date: 2015-07-15
Revision date: 2021-06-16

Germ cell mutagenicity:

Test type	Results	Exposure	Tested organisms
OECD 476, key study	negative	In vitro	mouse lymphoma L5178Y cells

Reproductive toxicity:

Test type	Results	Exposure	Tested organisms
OECD 416, weight of evidence	300 mg/kg bw/day (nominal), NOAEL 1 000 mg/kg bw/day (nominal), NOAEL 300 mg/kg bw/day (nominal), NOAEL 300 mg/kg bw/day (nominal), NOAEL 1 000 mg/kg bw/day (nominal), NOAEL 300 mg/kg bw/day (nominal), NOAEL 1 000 mg/kg bw/day (nominal), NOAEL 1 000 mg/kg bw/day (nominal), NOAEL 1 000 mg/kg bw/day (nominal)	oral: feed	rat

Aspiration hazard:

Test type	Results	Exposure	Tested organisms
	No data available.		

Mixture:

Acute toxicity:	Harmful if swallowed or in contact with skin.
Serious eye damage / irritation:	Causes serious eye damage.
Skin corrosion / irritation:	Causes severe skin burns and eye damage.
Respiratory or skin sensitisation:	May cause an allergic skin reaction.
STOT - single exposure:	The product does not meet the criteria for classification.
STOT - repeated exposure:	The product does not meet the criteria for classification.
Carcinogenicity:	The product does not meet the criteria for classification.
Germ cell mutagenicity:	The product does not meet the criteria for classification.
Reproductive toxicity:	The product does not meet the criteria for classification.
Aspiration hazard:	The product does not meet the criteria for classification.

11.2 Information on other hazards Endocrine disrupting properties

This product does not contain endocrine disruptors in a concentration of 0.1% by weight or higher.

Other information: No data available.

SECTION 12: Ecological information

12.1 Toxicity

Harmful to aquatic life with long lasting effects.

SAFETY DATA SHEET

according to Regulation No. 1907/2006 (REACH) and
Commission Regulation (EU) 2020/878

Hardener HG 700 F

Revision: 2.1
Issue date: 2015-07-15
Revision date: 2021-06-16

3-aminomethyl-3,5,5-trimethylcyclohexylamine (CAS: 2855-13-2)

Toxicity	Tested organisms	Results	Test type
Acute toxicity to fish	<i>Leuciscus idus</i>	140 mg/L, LC100 / 96 h 110 mg/L, LC50 / 96 h 70 mg/L, LC0 / 96 h	
Acute toxicity to invertebrates	<i>Daphnia magna</i>	66.4 mg/L, EC100 / 48 h 23 mg/L, EC50 / 48 h 8.3 mg/L, NOEC / 48 h 27 mg/L, EC50 / 24 h	OECD 202
Acute toxicity to aquatic algae	<i>Desmodesmus subspicatus</i> (previous name: <i>Scenedesmus subspicatus</i>)	37 mg/L, EC50 / 72 h 3.1 mg/L, EC10 / 72 h > 50 mg/L, EC50 / 72 h 11.2 mg/L, EC10 / 72 h 1.5 mg/L, NOEC / 72 h	

Benzyl alcohol (CAS: 100-51-6)

Toxicity	Tested organisms	Results	Test type
Acute toxicity to fish	<i>Pimephales promelas</i>	770 mg/L, LC50 / 1 h 770 mg/L, LC50 / 24 h 770 mg/L, LC50 / 48 h 460 mg/L, LC50 / 72 h 460 mg/L, LC50 / 96 h	
Acute toxicity to invertebrates	<i>Daphnia magna</i>	230 mg/L, EC50 / 48 h	OECD 202
Acute toxicity to aquatic algae	<i>Pseudokirchneriella subcapitata</i> (previous names: <i>Raphidocelis subcapitata</i> , <i>Selenastrum capricornutum</i>)	770 mg/L, EC50 / 72 h 310 mg/L, NOEC / 72 h 500 mg/L, EC50 / 72 h 310 mg/L, NOEC / 72 h	OECD 201

2-piperazin-1-ylethylamine (CAS: 140-31-8)

Toxicity	Tested organisms	Results	Test type
Acute toxicity to fish	<i>Pimephales promelas</i>	1 030 mg/L, NOEC / 96 h 1 030 mg/L, LC0 / 96 h 2 190 mg/L, LC50 / 96 h 3 750 mg/L, LC100 / 96 h	
Acute toxicity to invertebrates	<i>Daphnia magna</i>	10 mg/L, NOEC / 48 h 58 mg/L, EC50 / 48 h 100 mg/L, EC100 / 48 h	OECD 202
Acute toxicity to aquatic algae	<i>Pseudokirchneriella subcapitata</i> (previous names: <i>Raphidocelis subcapitata</i> , <i>Selenastrum capricornutum</i>)	> 1 000 mg/L, EC50 / 72 h	OECD 201

2,2',2''-nitrioltriethanol (CAS: 102-71-6)

Toxicity	Tested organisms	Results	Test type
Acute toxicity to fish	<i>Pimephales promelas</i>	11 800 mg/L, LC50 / 96 h	
Acute toxicity to invertebrates	<i>Ceriodaphnia dubia</i>	609.88 mg/L, EC50 / 48 h	
Acute toxicity to aquatic algae	<i>Desmodesmus subspicatus</i> (previous name: <i>Scenedesmus subspicatus</i>)	512 mg/L, EC50 / 72 h 26 mg/L, EC10 / 72 h 216 mg/L, EC50 / 72 h 7.9 mg/L, EC10 / 72 h	

12.2 Persistence and degradability No data available.

12.3 Bioaccumulative potential No data available.

SAFETY DATA SHEET

according to Regulation No. 1907/2006 (REACH) and
Commission Regulation (EU) 2020/878

Hardener HG 700 F

Revision: 2.1
Issue date: 2015-07-15
Revision date: 2021-06-16

- 12.4 Mobility in soil** No data available.
- 12.5 Results of PBT and vPvB assessment** This mixture does not contain any substances which are classified as PBT or vPvB
- 12.6 Endocrine disrupting properties** This product does not contain endocrine disruptors in a concentration of 0.1% by weight or higher.
- 12.7 Other adverse effects** No data available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

- Catalogue No. of mixture waste: 08 01 11 waste paint and varnish containing organic solvents or other dangerous substances
- Waste codes / waste designations according to LoW: 15 01 10 packaging containing residues of or contaminated by dangerous substances
- Recommended procedure for mixture waste disposal: No data available.
- Recommended procedure for packaging disposal: Empty containers must be disposed of in accordance with the applicable waste legislation. After perfect cleaning, the packaging can be used as a secondary raw material for the same purpose. Recommended way of disposing of recycling, burning in a hazardous waste incinerator or storing hazardous waste.
- Physical / chemical properties that may affect waste treatment method: No data available.
- Sewage disposal-relevant information: Protect against weathering. Prevent leakage of waste into the water / soil / sewage system. In case of leakage, inform the competent authorities.
- Other disposal recommendations: Dispose of in accordance with applicable legislation.

SECTION 14: Transport information

	Type of transport	Land transport ADR/RID	Sea transport IMDG	Air Transport ICAO / IATA
14.1	UN number or ID number	2735	2735	2735
14.2	UN proper shipping name	AMINES, LIQUID, CORROSIVE, N.O.S. (3-aminomethyl-3,5,5-trimethylcyclohexylamine, 2-piperazin-1-ylethylamine)	AMINES, LIQUID, CORROSIVE, N.O.S. (3-aminomethyl-3,5,5-trimethylcyclohexylamine, 2-piperazin-1-ylethylamine)	AMINES, LIQUID, CORROSIVE, N.O.S. (3-aminomethyl-3,5,5-trimethylcyclohexylamine, 2-piperazin-1-ylethylamine)
14.3	Transport hazard class(es)	8	8	8
	Classification code	80	-	-
	EmS	-	F-A, S-B	-
	Packaging instructions	P001 / IBC03 / LP01 / R001	P001;LP01 / IBC03	(passanger/cargo) 852 / 856
	Labels	8		

SAFETY DATA SHEET

according to Regulation No. 1907/2006 (REACH) and
Commission Regulation (EU) 2020/878

Hardener HG 700 F

Revision: 2.1
Issue date: 2015-07-15
Revision date: 2021-06-16

14.4	Packing group	III	III	III

14.5 Environmental hazards No data available.

14.6 Special precautions for user

No data available.

14.7 Maritime transport in bulk according to IMO instruments

Not specified.

Other information

Type of transport	Land transport ADR/RID	Sea transport IMDG	Air Transport ICAO / IATA
Limited quantities:	5 L	5 L	Y841
Excepted quantities:	E1	E1	E1
Transport category:	3	-	-
Tunnel restriction code:	(E)	-	-
Segregation group:	-	SGG18;SG35	-

SECTION 15: Regulatory information

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

Regulation (EC) No. 1272/2008 (CLP) on classification, labelling and packaging of substances and mixtures, ...
Regulation (EC) No. 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), ...
Applicable national regulations.

15.2 Chemical safety assessment A chemical safety assessment has been performed.

SECTION 16: Other information

Complete text of all classifications and hazard classes referred to in SECTION 3

Hazard class: Acute Tox. 4 - Acute Toxicity, category 4
Aquatic Chronic 3 - Chronic (long term) aquatic hazard, category 3
Skin Corr. 1B - Skin corrosion, category 1B
Skin Sens. 1 - Skin sensitisation, category 1

H-statements: H302 Harmful if swallowed.
H312 Harmful in contact with skin.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H332 Harmful if inhaled.
H412 Harmful to aquatic life with long lasting effects.

Abbreviations:

ADN Inland waterways
ADR Accord Dangereuses Route
CAS Chemical Abstracts Service
DNEL Derived no-effect level
EC50 Effect concentration for 50%

SAFETY DATA SHEET

according to Regulation No. 1907/2006 (REACH) and
Commission Regulation (EU) 2020/878

Hardener HG 700 F

Revision: 2.1
Issue date: 2015-07-15
Revision date: 2021-06-16

EINECS	European Inventory of Existing Commercial Chemical Substances
EL50	Effect level for 50%
IATA	International Air Transport Association
IC50	Inhibition concentration for 50%
ICAO	International Civil Aviation Organization
IL 50	Inhibition load for 50%
IMDG	International Maritime Dangerous Goods
LC50	Lethal concentration for 50%
LD50	Lethal dose for 50%
LL50	Lethal load for 50%
LOAEC	Lowest observable adverse effect concentration
LOAEL	Lowest observable adverse effect level
LOEC	Lowest observable effect concentration
LOEL	Lowest observable effect level
NEL	No effect level
NOAEC	No observable adverse effect concentration
NOAEL	No observable adverse effect level
NOEC	No observable effect concentration
NOEL	No observable effect level
NPK-P	Maximum permissible concentration
OEL	Occupational Exposure Limit (workplace exposure limit - 8 hours / shift)
PBT	Persistent, bioaccumulative and toxic
PEL	Permissible exposure limits
PNEC	Predicted no-effect concentration
RID	Regulations for the International Carriage of Dangerous Goods by Rail
SCL	Specific concentration limits
STEL	Short Term Exposure Limit (short exposure - corresponds to approx. 15 min.)
TT	Toxic threshold
VOC	Volatile organic substances
vPvB	Very persistent and very bioaccumulative
WGK	Hazard classes for water (Wassergefährdungsklassen)

Changes to previous version SDS:

This revision follows the revision: 201-06-08 and complies with Regulations (EC) No. 1907/2006 (REACH) and No. 1272/2008 (CLP).

Key literature references and sources for data: Regulation (EC) No 1907/2006 of the European Parliament and of the Council (REACH), as amended. Regulation (EC) No 1272/2008 of the European Parliament and of the Council, as amended. Act No. 350/2011 Coll., On chemical substances and chemical mixtures, as amended. Principles for providing first aid during exposure to chemical substances (Assoc. Prof. Daniela Pelclová, MD, CSc., Alexandr Fuchs, MD, CSc., Miroslava Hornychová, MD, CSc., Zdeňka Trávníčková, MD, CSc., Jiřina Fridrichovská, prom. Chem.). Data from the manufacturer of the substance / mixture, if available - data from the registration dossier. (1)

Classification was performed by calculation method.

Instructions for training:

Workers who come into contact with dangerous substances must be aware of the effects of these substances, how they are treated, and protective measures to the extent necessary.

Furthermore, they must be familiar with the first aid principles, with the necessary sanitation procedures and with the procedures for disaster and accident elimination.

The person handling this chemical product must be familiar with the safety rules and the data given in the safety data sheet.

If a hazardous chemical / mixture is classified as corrosive or toxic, workers should be made aware of the Corrosive / Toxic Chemicals / Mixing Rules.

Persons carrying dangerous substances must be familiar with the ADR / RID accident instructions.

Other information:

The above information describes the conditions for safe handling of the product and corresponds to the current knowledge of the manufacturer and serves as instruction for the training of the persons handling the product.

SAFETY DATA SHEET

according to Regulation No. 1907/2006 (REACH) and
Commission Regulation (EU) 2020/878

Hardener HG 700 F

Revision:	2.1
Issue date:	2015-07-15
Revision date:	2021-06-16

The manufacturer carries guarantee the above-described properties of the product at the recommended use.
The user is responsible for determining the suitability of the product for specific purposes and adapting security measures if such application is contrary to the manufacturer's recommendations.