



10 3 component B FAST

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

1.1 Product Identifier

Commercial name : 10 3 component B FAST

UFI : UR40-S0D3-2008-1DJD

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

Type of application (use) : Hardener for epoxy resin

Usage Restrictions recommended : Reserved for industrial and professional users.

1.3 Details of the supplier of the safety data sheet

Company : CECCHI GUSTAVO & C Srl
Via M. Coppino 253 - 55049 Viareggio (LU)
ITALY

Telephone : +39 0584 383694

Email address of the person responsible for the SDS : info@cecchi.it

1.4 Emergency telephone number

+ 44 1235 239670 (All languages)

CAVp "Hosp. Pediatric Bambino Gesù" Rome Piazza Sant'Onofrio, 4 00165 Tel.06-68593726

Az. Osp. Univ. Foggia Foggia V.le Luigi Pinto, 1 71122 Tel.0881-732326

Hospital "A. Cardarelli" Naples Via A. Cardarelli, 9 80131 Tel.081-7472870 CAV Policlinico

"Umberto I" Rome Viale del Policlinico, 155 00161 Tel.06-49978000 CAV Policlinico "A.

Gemelli" Rome Largo Agostino Gemelli, 8 00168 Tel.06-3054343

Hospital "Careggi" Medical Toxicology Unit Florence Largo Brambilla, 3 50134 Tel.055-7947819

CAV National Center for Toxicological Information Pavia Via Salvatore Maugeri, 10 27100

Tel.0382-24444

hosp. Niguarda Ca' Granda Milan Piazza Ospedale Maggiore,3 20162 Tel.02-66101029 Papa

Giovanni XXII Hospital Bergamo Piazza OMS, 1 24127 Tel.800883300 Integrated University

Hospital (AOUI) of Verona Borgo Trento branch, Verona Tel. 800011858

SECTION 2: hazard identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) N. 1272/2008)

Acute toxicity, Category 4

H302: Harmful if swallowed.

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Skin Corrosion, Subcategory 1A	H314: Causes severe skin burns and eye damage.
Serious eye damage, Category 1	H318: Causes serious eye damage.
Skin sensitization, Category 1	H317: May cause an allergic skin reaction.
Specific target organ toxicity - repeated exposure, Category 2	H373: May cause damage to organs through prolonged or repeated exposure.
Long-term (chronic) hazard to the aquatic environment, Category 2	H411: Toxic to aquatic life with long lasting effects.

2.2 Elements of the label

Labeling (REGULATION (EC) N. 1272/2008) Hazard pictograms :



Warning : Danger

Warning notices : H302 Harmful if swallowed.
H314 It causes serious skin burns and serious eye injuries. May cause an allergic skin reaction.
H317 May cause an allergic skin reaction.
H373 May cause damage to organs if exposed prolonged or repeated.
H411 Toxic to aquatic life with long lasting effects.

Additional risk descriptions : EUH071 Corrosive to the respiratory tract.

Cautionary advice : **Prevention:**
P260 Do not breathe mist or vapours. Do
P273 not disperse in the environment.
P280 Wear gloves/protective clothing/eye protection eyes/ face protection/ hearing protection.

Reaction:

P303 + P361 + P353 IN CASE OF CONTACT WITH THE SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin.
P304 + P340 + P310 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER/doctor.

P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove any contact lenses if it is easy to do so. Continue rinsing. Immediately call a POISON CENTER/doctor.

P391 Collect spillage.

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aminomethyl-3,5,5-trimethylcyclohexylamine

m-phenylenebis(methylamine)

4,4'-methylenebis(cyclohexylamine)

3,6,9,12-tetraazatetradecane-1,14-diamine

4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane,
reaction products with 3-aminomethyl-3,5,5-trimethylcyclohexylamine

3,6,9-triazaundecane-1,11-diamino

3-aminopropyltriethoxysilane

2.3 Other dangers

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

Ecological information: The substance/mixture does not contain any components considered to have endocrine disrupting properties within the meaning of Article 57(f) of REACH or Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information: The substance/mixture does not contain any components considered to have endocrine disrupting properties within the meaning of Article 57(f) of REACH or Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients**3.2 Mixtures**

Chemical nature : Formulation based on aliphatic and cycloaliphatic amines

Components

Chemical Name	CAS No EC no INDEX NO Number of registration	Classification	concentration and (%w/w)



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3-aminomethyl-3,5,5-trimethylcyclohexylamine	2855-13-2 220-666-8 612-067-00-9 01-2119514687-32	Acute Tox. 4; H302 Skin Corr. 1B; H314 Eye Dam. 1; H318 Skin Sens. 1A; H317 Aquatic Chronic 3; H412 limits of concentration specific Skin Sens. 1A; H317 > = 0.001% Estimation of toxicity sharp Acute toxicity for orally: 1.030 mg/kg	> = 20 - < 25
m-phenylenebis(methylamine)	1477-55-0 216-032-5 01-2119480150-50	Acute Tox. 4; H302 Acute Tox. 4; H332 Skin Corr. 1B; H314 Skin Sens. 1B; H317 Aquatic Chronic 3; H412 EUH071	> = 20 - < 25
4,4'-methylenebis(cyclohexylamine)	1761-71-3 217-168-8 01-2119541673-38	Acute Tox. 4; H302 Skin Corr. 1A; H314 Skin Sens. 1; H317 STOT RE 2; H373	> = 20 - < 25
benzyl alcohol	100-51-6 202-859-9 603-057-00-5 01-2119492630-38	Acute Tox. 4; H302 Acute Tox. 4; H332 Eye Irrit. 2; H319	> = 12.5 - < 20
3,6,9,12-tetraazatetradecane-1,14-diamine	4067-16-7 223-775-9 612-064-00-2	Skin Corr. 1B; H314 Skin Sens. 1; H317 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 Acute Tox. 4; H302 Acute Tox. 4; H312 M-Factor (Toxicity acute for the environment aquatic): 1 M-Factor (Toxicity chronic for the aquatic environment): 1	> = 7 - < 10

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4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with 3-aminomethyl-3,5,5-trimethylcyclohexylamine	38294-64-3 500-101-4 01-2119965165-33-0011	Skin Corr. 1B; H314 Eye Dam. 1; H318 Skin Sens. 1; H317 Aquatic Chronic 3; H412	> = 1 - < 2.5
3,6,9-triazaundecane-1,11-diamino	112-57-2 203-986-2 612-060-00-0	Acute Tox. 4; H302 Acute Tox. 4; H312 Skin Corr. 1B; H314 Eye Dam. 1; H318 Skin Sens. 1; H317 Aquatic Chronic 2; H411 Estimation of toxicity sharp Acute toxicity for oral: 500 mg/kg Acute toxicity for cutaneous route: 1,100 mg/kg	> = 1 - < 2.5
3-aminopropyltriethoxysilane	919-30-2 213-048-4 612-108-00-0 01-2119480479-24	Acute Tox. 4; H302 Skin Corr. 1B; H314 Skin Sens. 1; H317	> = 0.25 - < 0.5

For explanations of abbreviations see paragraph 16.

SECTION 4: first aid measures**4.1 Description of first aid measures** General

- information : Show this safety data sheet to the attending physician.
Keep warm in a quiet room.
Take off all contaminated clothing immediately.
- If inhaled : Take to fresh air.
Put the person concerned in a resting position and keep him warm.
If unconscious, place on side in stable position and consult a doctor.
If symptoms persist, consult a doctor. In case of irregular breathing or respiratory arrest, give artificial respiration.
- In case of skin contact : Wash immediately with soap and plenty of water. Do not use solvents or thinners.
If it gets on clothing, remove clothing. Burns must be treated by a doctor.
- In case of contact with eyes : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.



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If eye irritation persists, consult a physician. If this is easy, remove contact lenses, if they are worn.

If ingested : DO NOT induce vomiting.
If victim vomits while lying on back, turn to side. Call a doctor immediately.
Give small quantities of water to drink.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms : Burn
superficial burning sensation.
Redness
Severe irritation

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : First Aid procedure should be agreed
consulting the competent occupational physician.

SECTION 5: Firefighting measures

5.1 Extinguishing media Suitable

extinguishing media : Carbon dioxide (CO2)
Foam
Dry powder
Watery fog

Unsuitable extinguishing media : Not known.

5.2 Special hazards arising from the substance or mixture

Specific dangers vs the fire : Pressure in hermetically sealed containers can increase under the influence of heat.
Cool closed containers near the flames with nebulised water.
Hazardous decomposition products in case of fire.

5.3 Advice for firefighters

Protection devices special for firefighters : In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.

Further information : In case of fire and/or explosion do not breathe fumes. Use extinguishing systems compatible with the local situation and the surrounding environment.
Immediately evacuate personnel to safe areas. Prevent water from fire extinguishers from contaminating surface water or groundwater.

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precautions : Refer to protective measures listed in sections 7 and 8.
Evacuate personnel to safe areas.
Use personal protective equipment.
Provide adequate ventilation.
Inform the responsible authorities in the event of a gas leak,
or if it enters pipes, soil or sewers.

6.2 Environmental precautions

Environmental precautions : Do not allow uncontrolled dumping of the product
in the environment.
Prevent the material from entering drains or waterways.

Local authorities must be notified if leaks cannot be contained.

6.3 Methods and materials for containment and cleaning up Methods

of reclamation : Dry with inert material (e.g. sand, silica gel, acid binder,
universal binder, sawdust). Contain and collect spillage with
non-combustible absorbent material (such as sand, earth,
diatomaceous earth, vermiculite) and place in container for
disposal according to local or national regulations (see
section 13).

Collect and transfer to a properly labeled container.

6.4 Reference to other sections

See Section 8 for personal protective equipment.

SECTION 7: Handling and storage**7.1 Precautions for safe handling**

Instructions for use: safe Ensure sufficient air exchange and/or exhaust in
workplaces.
Do not breathe vapors or spray.
Avoid inhalation, ingestion and contact with skin and eyes.

Wear protective clothing.
Persons with a history of skin hypersensitivity or asthma,
chronic allergies or recurrent respiratory disease should not
be employed in any process in which this mixture is used.

Advice on protection against fire and : Keep away from open flames, hot surfaces and sources of
explosions ignition.

Hygiene measures : Provide adequate ventilation. Wash hands and face before
breaks and immediately after handling the product.

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Warehouse and container requirements: Keep containers tightly closed in a dry, cool and well-ventilated place. Keep in properly labeled containers. To preserve the quality of the product, do not store near a heat source and do not expose to direct light.

Additional information for the conditions of storage : Protect from moisture.

Directions for the storage together with other products : Keep away from isocyanates. Do not store near acids. Keep away from oxidizing agents.

Learn more about storage stability : Stable under normal environmental conditions of temperature and pressure.

7.3 Particular End Uses

Particular uses : Consult the technical instructions for use of this substance/mixture.

SECTION 8: Exposure controls/personal protection**8.1 Control parameters**

Does not contain substances with occupational exposure limit values.

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Name of the substance	Final use	Street of exposure	Potentials consequences on Health	Value
benzyl alcohol	Workers	Inhalation	Short exposure term, Effects systemic	450mg/m ³
	Workers	Inhalation	Long exposure term, Effects systemic	90mg/m ³
	Workers	Contact with skin	Short exposure term, Effects systemic	47 mg/kg
	Workers	Contact with skin	Long exposure term, Effects systemic	9.5mg/kg
	Consumers	Ingestion	Short exposure term, Effects systemic	25 mg/kg
	Consumers	Ingestion	Long exposure term, Effects systemic	5 mg/kg
	Consumers	Inhalation	Short exposure term, Effects systemic	40.55 mg/m ³
	Consumers	Inhalation	Long exposure	8.11 mg/m ³



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			term, Effects systemic	
	Consumers	Contact with skin	Short exposure term, Effects systemic	28.5mg/kg
	Consumers	Contact with skin	Long exposure term, Effects systemic	5.7mg/kg
3-aminopropyltriethoxy silane	Workers	Contact with skin	Acute systemic effects, Systemic effects a long term	8.3mg/kg
	Workers	Inhalation	Acute systemic effects, Systemic effects a long term	59 mg/m3
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with 3-aminomethyl-3,5,5-trimethylcyclohexylamine	Workers	Inhalation	Systemic effects a long term	0.493mg/m3
	Workers	Dermal	Systemic effects a long term	0.14mg/kg
	Consumers	Inhalation	Systemic effects a long term	0.074 mg/m3
	Consumers	Dermal	Systemic effects a long term	0.05mg/m3
	Consumers	Oral	Systemic effects a long term	0.05mg/m3

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Substance name	Environmental compartment	Value
3-aminomethyl-3,5,5-trimethylcyclohexylamine	Fresh water	0.06 mg/l
	Sea water	0.006 mg/l
	Intermittent releases	0.23 mg/l
	Fresh water sediment	5.784 mg/kg
	Marine sediment	0.578mg/kg
	Sewage treatment plant	3.18 mg/l
	Soil	1.121mg/kg
benzyl alcohol	Fresh water	1 mg/l
	Sea water	0.1 mg/l
	Fresh water sediment	5.27mg/kg
	Marine sediment	0.527mg/kg
	Soil	0.456mg/kg
	Sewage treatment plant	39 mg/l
3-aminopropyltriethoxysilane	Intermittent releases	2.3 mg/l
	Fresh water	0.33 mg/l
	Sea water	0.033 mg/l
	Intermittent releases	3.3 mg/l

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	Fresh water sediment	0.26mg/kg
	Soil	0.04mg/kg
	Sewage treatment plant	13 mg/l
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1- chloro-2,3-epoxypropane, reaction products with 3- aminomethyl-3,5,5- trimethylcyclohexylamine	Fresh water	0.011 mg/l
	Sea water	0.001 mg/l
	Sewage treatment plant	10 mg/l
	Fresh water sediment	4320mg/kg
	Marine sediment	432mg/kg
	Soil	864mg/kg

8.2 Exposure controls

Appropriate engineering controls

Effective exhaust ventilation system effective
ventilation in all process areas

Individual protection

- Eye protection : Safety glasses with side protection according to
to the EN166 standard
Do not wear contact lenses.
Make sure that eyewash stations and emergency showers
are close to the workstation.
- Hand protection
Material : Protective gloves according to EN 374.
- Remarks : Nitrile rubber
- Skin and body protection : Protection suit
Preventive skin protection recommended
- Respiratory protection : Use a respirator during handling involving possible
exposure to product vapor.
The filter class of the respirator must be suitable for the
maximum anticipated concentration of the contaminant
(gas/vapour/particulate) which could arise when handling
the product. If the concentration is exceeded, self-contained
breathing apparatus must be used.
Suggested filter type:
Filter - ABEK
The equipment must comply with EN 14387
- Protection arrangements : Avoid contact with skin. Wear suitable
protective clothing.

SECTION 9: physical and chemical properties

9.1 Information on basic physical and chemical properties

physical state : liquid



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Color : light yellow

Odor : ammoniacal

Olfactory threshold : not determined

Melting point/freezing point : Not applicable

Boiling point/range : > 150 °C

Upper explosion limit : Not applicable / Upper limit of flammability

Lower explosion limit / : Not applicable Lower limit of flammability

Flash point : 100°C

Ignition temperature : Not applicable

Temperature of self-ignition : Not applicable

Temperature of decomposition : No data available

pH : 11
Concentration: 1%

Viscosity
Viscosity, dynamics : 30 - 80 mPa.s (25 °C)

Viscosity, kinematics : not determined

Solubility/solubilities.
Water solubility : not determined

Solubility in other solvents : not determined

Partition coefficient: n- : No data available octanol/water

Vapor pressure : not determined

Density : 1.04 g/cm³ (25 °C)

Apparent density : not determined



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Relative vapor density : not determined

Particle characteristics
particle size :Not applicable

Particle size : Not applicable

9.2 Other Information

Explosives : Not applicable

Oxidizing properties : Not applicable

Self-ignition : Not applicable

Evaporation rate : not determined

Surface tension : not determined

Sublimation point : Not applicable

SECTION 10: stability and reactivity

10.1 Reactivity

Stable under recommended storage conditions.

10.2 Chemical stability

No decomposition if stored and applied as directed.

10.3 Possibility of hazardous reactions

dangerous reactions : Reacts with the following substances:
Acids
Strong oxidizing agents

10.4 Conditions to avoid

Conditions to avoid : No decomposition if used according to the specific instructions.

10.5 Incompatible materials

Materials to avoid : Strong acids
Strong oxidizing agents

10.6 Hazardous decomposition products

This product can release the following:

Nitrogen oxides (NOx)

Carbon monoxide

Carbon dioxide (CO₂)

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Date of first edition: 03.11.2014**SECTION 11: toxicological information****11.1 Information on the hazard classes defined in Regulation (EC) No. 1272/2008****Acute toxicity****Product:**Acute oral toxicity : Acute toxicity estimate: 622.24 mg/kg
Method: Method of calculationAcute toxicity for inhalation : Acute toxicity estimate: > 5 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: Calculation methodAcute dermal toxicity : Acute toxicity estimate: > 2,000 mg/kg
Method: Calculation method

Acute toxicity (by other routes of administration) : Remarks: No data available

Components:**3-aminomethyl-3,5,5-****trimethylcyclohexylamine:** Acute oral toxicity estimate: 1,030 mg/kg
Method: Estimation of acute toxicity according to Regulation (EC) No. 1272/2008**benzyl alcohol:**Acute toxicity for inhalation : LC50 (Rat, male and female): 4 mg/l
Exposure time: 4 h
Test atmosphere: dust/fog
Method: OECD Test Guideline 403 GLP: yes**3,6,9-triazaundecane-1,11-diamino:**Acute oral toxicity : Acute toxicity estimate: 500 mg/kg
Method: Conversion into point estimate of acute toxicityAcute dermal toxicity : Acute toxicity estimate: 1,100 mg/kg
Method: Conversion into point estimate of acute toxicity**Skin corrosion/irritation****Product:**

Remarks : No data available

Components:**benzyl alcohol:**Species : On rabbit
Method : OECD Test Guideline 404 No skin
Result : irritation

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BPL : Yes

4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane,
reaction products with 3-aminomethyl-3,5,5-trimethylcyclohexylamine:

Species : human skin
Assessment : Causes burns.
Method : OECD Test Guideline 431 Causes
Result : burns.
BPL : Yes

Serious eye damage/irritation**Product:**

Remarks : No data available

Components:**benzyl alcohol:**

Species : On rabbit
Method : OECD Test Guideline 405 Irritating to
Result : eyes
BPL : Yes

Respiratory or skin sensitisation**Product:**

Remarks : No data available

Components:4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane,
reaction products with 3-aminomethyl-3,5,5-trimethylcyclohexylamine:

Assessment : May cause sensitization by skin contact.

3-aminopropyltriethoxysilane:

Test type : Buehler test
Route of exposure : Dermal
Species : Guinea pig
Method : OECD Test Guideline 406
Result : May cause sensitization by skin contact. Yes
BPL :

Germ cell mutagenicity**Components:**4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane,
reaction products with 3-aminomethyl-3,5,5-trimethylcyclohexylamine:

In vitro genotoxicity : Test type: Ames test
Test system: Salmonella typhimurium
Metabolic activation: with or without metabolic activation

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negative
BPL: yes**Carcinogenicity****Product:**

Remarks : No data available

Reproductive toxicity**Product:**

Effects on fertility : Remarks: No data available

Effects on fetal development : Remarks: No data available

Components:4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane,
reaction products with 3-aminomethyl-3,5,5-trimethylcyclohexylamine:Effects on fetal development : Test Type: Prenatal
Species: Rat
Strain: Sprague-Dawley
Method of application: Oral
General Toxicity Maternal: NOAEL: 100 mg/kg body weight
Teratogenicity: NOAEL: 250 mg/kg body weight
Developmental Toxicity: NOAEL: 250 mg/kg body weight
Embryo-fetal Toxicity: NOAEL: 250 mg/kg body weight
Method: OECD Test Guideline 414
BPL: yes**Specific target organ toxicity (STOT) - single exposure****Product:**

Remarks : No data available

Specific target organ toxicity (STOT) - repeated exposure**Product:**

Remarks : No data available

Repeated dose toxicity**Product:**

Remarks : No data available

Components:4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane,
reaction products with 3-aminomethyl-3,5,5-trimethylcyclohexylamine:Species : Rat, male and female 10
NOAEL extension : mg/kg

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LOAEL extension : 100mg/kg
Method of application : Oral
Exposure time : 90 d
Method : OECD Test Guideline 408 yes
BPL :

Species : Rat, male and female 30
NOAEL extension : mg/kg
Method of application : Oral
Exposure time : 28 d
Method : OECD Test Guideline 407 yes
BPL :

Aspiration toxicity_

Components:

3-aminomethyl-3,5,5-trimethylcyclohexylamine:

There is no classification for aspiration toxicity

11.2 Information on other hazards

Endocrine disrupting properties

Product:

Assessment : The substance/mixture contains no considered components having endocrine disrupting properties within the meaning of Article 57(f) of REACH or Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Further information

Product:

Remarks : No data available

SECTION 12: ecological information

12.1 Toxicity

Product:

Toxicity to fish : Remarks: No data available

Toxicity to daphnia and other aquatic invertebrates : Remarks: No data available

Components:

3-aminomethyl-3,5,5-

trimethylcyclohexylamine: Toxicity to **CSO** (Leuciscus idus (Golden Leuciscus)): 110 mg/l
Exposure time: 96 h
Type of test: Semi-static test
Method: Directive 67/548/EEC, Annex V, C.1. BPL:
yes



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Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 23 mg/l Exposure time: 48 h
Type of test: Static test
Method: OECD Test Guideline 202 GLP: yes

Toxicity to algae/aquatic plants : EC50r (Scenedesmus capricornutum (Freshwater algae)): > 50 mg/l
Exposure time: 72 h Type of test: Static test
Method: Directive 67/548/EEC, Annex V, C.3. BPL: yes

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 3mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea) Test type: semi-static test
BPL: yes

benzyl alcohol:

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 230 mg/l Exposure time: 48 h
Method: OECD Test Guideline 202 GLP: yes

Toxicity to algae/aquatic plants : EC50r (Pseudokirchneriella subcapitata (green algae)): 770 mg/l
Exposure time: 72 h Type of test: Static test
Method: OECD Test Guideline 201 GLP: yes

3,6,9,12-tetraazatetradecane-1,14-diamine:

M-Factor (Acute toxicity : 1 to the aquatic environment)

M-Factor (Chronic aquatic toxicity) : 1

4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with 3-aminomethyl-3,5,5-trimethylcyclohexylamine:

Toxicity to fish : LL50 (Oncorhynchus mykiss (rainbow trout)): 70.7 mg/l Exposure time: 96 h
Type of test: Static test
Method: OECD Test Guideline 203 GLP: yes

Toxicity to daphnia and other aquatic invertebrates : EL50 (Daphnia magna (Water flea)): 11.1 mg/l Exposure time: 48 h
Type of test: Static test
Method: OECD Test Guideline 202

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BPL: yes

Toxicity to algae/aquatic plants : EL50 (Pseudokirchneriella subcapitata (green algae)): 79.4 mg/l
Exposure time: 72 h Type of test: Static test
Method: OECD Test Guideline 201 GLP: yes

Toxicity to microorganisms : (activated sludge): > 1,000 mg/l Exposure time: 3 h
Test Type: Respiration inhibitor Method: OECD Test Guideline 209 GLP: yes

3-aminopropyltriethoxysilane:

Toxicity to fish : LC50 (Danio rerio (zebrafish)): > 934 mg/l
Exposure time: 96 h Type of test: Semi-static test
Method: OECD Test Guideline 203 GLP: yes

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 331 mg/l Exposure time: 48 h
Type of test: Static test
Method: OECD Test Guideline 202 GLP: yes

Toxicity to algae/aquatic plants : EC50 (Scenedesmus subspicatus): > 1,000 mg/l
Exposure time: 72 h
Type of test: Static test
Method: Directive 67/548/EEC, Annex V, C.3. BPL: yes

12.2 Persistence and degradability**Product:**

Biodegradability : Remarks: No data available

Physico-chemical elimination : Remarks: No data available

Components:**3-aminomethyl-3,5,5-trimethylcyclohexylamine:**

Biodegradability : Test type: aerobic
Result: Not readily biodegradable. Method: Directive 67/548/EEC, Annex V, C.4.A. BPL: yes

4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with 3-aminomethyl-3,5,5-trimethylcyclohexylamine:

Biodegradability : Test type: aerobic Inoculum: activated sludge

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Result: Non-biodegradable
Biodegradation: 0 %
Exposure time: 28 d
Method: OECD Test Guideline 301F GLP: yes

3-aminopropyltriethoxysilane:

Biodegradability : Test type: aerobic
Result: Not readily biodegradable. Method:
Directive 67/548/EEC, Annex V, C.4.A. BPL: yes

12.3 Bioaccumulative potential**Product:**

Bioaccumulation : Remarks: No data available

Components:**3-aminomethyl-3,5,5-trimethylcyclohexylamine:**

Partition coefficient: n- : log Pow: 0.99
octanol/water Method: OECD Test Guideline 107 GLP: yes

4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane,
reaction products with 3-aminomethyl-3,5,5-trimethylcyclohexylamine:

Bioaccumulation : Species: Fish
Bioconcentration factor (BCF): 5.13
Method: evaluated

Partition coefficient: n- : log Pow: 3.6 (25°C)
octanol/water pH: 7
Method: Regulation (EC) n. 440/2008, annex, A.8
GLP: no

12.4 Mobility in soil**Components:**

4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane,
reaction products with 3-aminomethyl-3,5,5-trimethylcyclohexylamine:

Diffusion in the various sectors: log Koc: > 5.16
environmental Method: OECD Test Guideline 121

12.5 Results of PBT and vPvB assessment**Product:**

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

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12.6 Endocrine-disrupting properties

Product:

Assessment : The substance/mixture contains no considered components having endocrine disrupting properties within the meaning of Article 57(f) of REACH or Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7 Other adverse effects

Product:

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : In accordance with local and national regulations.
Dangerous container when empty. Do not dispose of as household waste.
Do not mix waste from different sources during collection.

Contaminated containers : Empty containers should be taken to an approved site for recycling or disposal.

SECTION 14: transport information

14.1 UN number or ID number

ADR/RID/ADN : UN 2735
IMDG extension : UN 2735
IATA : UN 2735

14.2 UN proper shipping name

ADR/RID/ADN : CORROSIVE LIQUID AMINES, NOS
(Isophoronediamine, Pentaethylenehexamine)
IMDG extension : AMINES, LIQUID, CORROSIVE, NOS
(ISOPHORONEDIAMINE, Pentaethylenehexamine)
IATA : Amines, liquid, corrosive, nos (Isophorone diamine, Pentaethylenehexamine)

14.3 Transport hazard classes

ADR/RID/ADN : 8
IMDG extension : 8
IATA : 8

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Packing group : III
 Classification code : C7
 Hazard identification number : 80
 Labels : 8
 Tunnel restriction code : AND

IMDG extension

Packing group : III
 Labels : 8
 EmS Code : FA, SB
 Remarks : IMDG Code segregation group 18 - Alkalis

IATA (Cargo)

Packing Instructions (Cargo Aircraft) : 856
 Packing group : III
 Labels : Corrosive

IATA (Passenger)

Packing Instructions (Passenger Aircraft) : 852
 Packing instruction (LQ) : Y841
 Packing group : III
 Labels : Corrosive

14.5 Environmental hazards**ADR/RID/ADN**

Dangerous for the environment : Yes

IMDG extension

Marine pollutant : Yes

IATA (Cargo)

Dangerous for the environment : Yes

14.6 Special precautions for users Remarks

: The transport of dangerous goods, including loading and unloading, must be carried out by persons who have received the necessary training required by the modal regulations.

The transport classification(s) provided herein are for informational purposes only and based solely on the properties of the unpackaged material as described in this MSDS. Shipping classifications may vary based on mode of transportation, package sizes, and changes in regional or country regulations.

14.7 Shipping in bulk in accordance with IMO acts Not applicable to the product in its supplied form.

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REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII) : The restriction conditions for the following items have to be considered:
Number in list: 3

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

Regulation (EC) no. 1005/2009 on substances that deplete the ozone layer : Not applicable

Regulation (EU) 2019/1021 on persistent organic pollutants (recast) : Not applicable

Regulation (EC) no. 649/2012 of the European Parliament and of the Council on the export and import of dangerous chemicals : Not applicable

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

REGULATION (EU) 2019/1148 on the placing on the market and use of explosives precursors

: Not applicable

International Chemical Weapons Convention (CWC), : Not applicable list of chemical precursors and toxic products

Regulation (EC) no. 111/2005 of the Council containing rules for the control of trade in drug precursors between the Community and third countries : Not applicable

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances. E2 DANGERS FOR THE ENVIRONMENT

Other legislations : Referring to the product composition, we intentionally do not add any of the substances listed in the European Directive 2011/65/EU (RoHS 2, RoHS3 and China RoHS).

Consequently, the product is in line with these directives. We do not intentionally add conflict minerals to the product.

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observed; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observed Effect Load Rate; NZIoC - New Zealand Chemicals Inventory; OECD - Organization for Economic Co-operation and Development; OPPTS - Bureau of Chemical Safety and Pollution Prevention; PBT - Persistent, bioaccumulative and toxic substance; PICCS - Chemical Substances Inventory of the Philippines; (Q)SAR - (Quantitative) Structure Activity Relationships; REACH - Regulation (EC) No. 1907/2006 of the European Parliament and of the Council concerning the registration, evaluation, the authorization and restriction of chemicals; RID - Regulations concerning the international rail transport of dangerous goods; SADT - Self-accelerating decomposition temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemical Substances Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very persistent and very bioaccumulative United; vPvB - Very persistent and very bioaccumulative United; vPvB - Very persistent and very bioaccumulative

Further information

Directions : Provision of information, instructions to operators
on training and training.

Classification of the mixture:

Acute Tox. 4	H302
Skin Corr. 1A	H314
Eye Dam. 1	H318
Skin Sens. 1	H317
STOT RE 2	H373
Aquatic Chronic 2	H411

Classification procedure:

Calculation method
Calculation method
Calculation method
Calculation method
Calculation method
Calculation method

The information contained in this Safety Data Sheet is correct according to our best knowledge of the product at the time of publication. This information is provided for the sole purpose of allowing the use, storage, transport and disposal of the product in the most correct and safest way. This information should not be considered a guarantee or specification of product quality.

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