Cert no 1122 - ISO 9001

CristexCompositeMaterials

MATERIAL DATA SAFETY SHEET

Version 5.0 SDB_GB Revision Date 28.11.2020 Cristex Date 25.04.2022

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

1:1 Product identifier

Trade name : Elan-tech® W 152.1 HR
UFI : 2G80-F00T-500T-JRTG

1:2 Relevant identified uses of the substance or mixture and uses advised against

Use of the Substance/Mixture : Epoxy Hardener

1:3 Details of the supplier of the safety data sheet

Name and Address : Cristex Composite Materials, Westhouse, Shadsworth Business Park, off Duttons Way, Blackburn, BB1 2QJ
Telephone : 01282770666
E-mail address : sales@cristex.co.uk

1:4 Emergency telephone number

01282770666

2: Hazards identification

2:1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Acute toxicity, Category 4	H302: Harmful if swallowed.
Skin corrosion, Category 1A	H314: Causes severe skin burns and eye damage.
Serious eye damage, Category 1	H318: Causes serious eye damage.
Skin sensitisation, 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) aquatic hazard, Category 2	H411: Toxic to aquatic life with long lasting effects.

2:2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

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Hazard pictograms :

Signal word	Danger	
Hazard statements:	H302	Harmful if swallowed
	H314	Causes severe skin burns and eye damage.
	H317	May cause an allergic skin reaction.
	H373	May cause damage to organs through prolonged or repeated exposure.
	H411	Toxic to aquatic life with long lasting effects.
Supplemental Hazard Statements	:EUH071	Corrosive to the respiratory tract
Precautionary statements:	**Prevention:**	
	P260	Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
	P273	Avoid release to the environment.
	P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
	Response:	
	P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
	P304 + P340 + P310	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.
	P305 + P351 + P338 + P310	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.

Hazardous components which must be listed on the label:
3-aminomethyl-3,5,5-trimethylcyclohexylamine

m-phenylenebis(methylamine)

4,4'-methylenebis(cyclohexylamine)

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3,6,9,12-tetra-azatetradecamethylenediamine

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

3,6,9-triazaundecamethylenediamine

3-aminopropyltriethoxysilane

2:3 Other hazards

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.

3: Composition/information on ingredients

3:2 Mixtures

Chemical nature : Cycloaliphatic and aliphatic amine based mixture

Hazardous components

Chemical name	CAS-No. EC-No./List Registration number	Classification (REGULATION (EC) No 1272/2008)	Concentration (%)
3-aminomethyl-3,5,5-trimethylcyclohexylamine	2855-13-2 220-666-8 01-2119514687-32	Acute Tox.4; H302 Acute Tox.4; H312 Skin Corr.1B; H314 Eye Dam.1; H318 Skin Sens.1; H317 Aquatic Chronic3; H412	>= 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 Chronic3; H412	>= 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 RE2; H373	>= 20 - < 25

benzyl alcohol	100-51-6 202-859-9 01-2119492630-38	Acute Tox.4; H302 Acute Tox.4; H332 Eye Irrit.2; H319	>= 12,5 - < 20
3,6,9,12-tetra-azatetradecamethylenediamine	4067-16-7 223-775-9	Skin Corr.1B; H314 Skin Sens.1; H317 Aquatic Acute1; H400 Aquatic Chronic1; H410 Acute Tox.4; H302 Acute Tox.4; H312	>= 7 - < 10
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-	38294-64-3	Skin Corr.1B; H314 Eye Dam.1; H318	>= 1 - < 2,5
chloro-2,3-epoxypropane, reaction products with 3-aminomethyl-3,5,5-trimethylcyclohexylamine	01-2119965165-33-0011	Skin Sens.1; H317 Aquatic Chronic3; H412	
3,6,9-triazaundecamethylenediamine	112-57-2 203-986-2 /	Acute Tox.4; H302 Acute Tox.4; H312 Skin Corr.1B; H314 Eye Dam.1; H318 Skin Sens.1; H317 Aquatic Chronic2; H411	>= 1 - < 2,5
3-aminopropyltriethoxysilane	919-30-2 213-048-4 01-2119480479-24	Acute Tox.4; H302 Skin Corr.1B; H314 Skin Sens.1; H317	>= 0,25 - < 0,5

For explanation of abbreviations see section 16.

4: First aid measures

4:1 Description of first aid measures

General advice : Show this safety data sheet to the doctor in attendance.
: Keep warm and in a quiet place.
: Take off all contaminated clothing immediately.

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If inhaled	: Move to fresh air. : Keep patient warm and at rest. : If unconscious, place in recovery position and seek medical advice. : If symptoms persist, call a physician. : If breathing is irregular or stopped, administer artificial respiration.
In case of skin contact	: Wash off immediately with soap and plenty of water. : Do NOT use solvents or thinners. If on clothes, remove clothes. : Burns must be treated by a physician.
In case of eye contact	: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. : If eye irritation persists, consult a specialist. : If easy to do, remove contact lens, if worn.
If swallowed	: Do NOT induce vomiting. : If a person vomits when lying on his back, place him in the recovery position. : Call a physician immediately. : Give small amounts 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	: The first aid procedure should be established in consultation with the doctor responsible for industrial medicine.

5: Firefighting measures

5:1 Extinguishing media

Suitable extinguishing media	: Carbon dioxide (CO2)

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: Foam
: Dry powder
: Water mist

Unsuitable extinguishing media : None known.

5:2 Special hazards arising from the substance or mixture

Specific hazards during Firefighting
: The pressure in sealed containers can increase under the influence of heat.
: Cool closed containers exposed to fire with water spray.
: Hazardous decomposition products formed under fire conditions.

5:3 Advice for firefighters

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

Further information
: In the event of fire and/or explosion do not breathe fumes.
: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
: Immediately evacuate personnel to safe areas.
: Prevent fire extinguishing water from contaminating surface water or the ground water system.

6: Accidental release measures

6:1 Personal precautions, protective equipment and emergency procedures

Personal precautions
: Refer to protective measures listed in sections 7 and 8.
: Evacuate personnel to safe areas.
: Use personal protective equipment.
: Ensure adequate ventilation.
: Inform the responsible authorities in case of gas leakage, or of entry into waterways, soil or drains.

6:2 Environmental precautions

Environmental precautions
: Do not allow uncontrolled discharge of product into the environment.
: Try to prevent the material from entering drains or water courses.
: Local authorities should be advised if significant spillages cannot be contained.

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6:3 Methods and material for containment and cleaning up

Methods for cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
: Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).
: Pick up and transfer to properly labelled containers.

6:4 Reference to other sections

For personal protection see section 8.

7: Handling and storage

7:1 Precautions for safe handling

Advice on safe handling : Provide sufficient air exchange and/or exhaust in work rooms.
: Do not breathe vapours or spray mist.
: Avoid inhalation, ingestion and contact with skin and eyes.
: Wear personal protective equipment.
: 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.

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

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

7:2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Keep containers tightly closed in a dry, cool and well ventilated place. Keep in properly labelled containers. To maintain product quality, do not store in heat or direct sunlight.

Further information on storage conditions : Protect from moisture.

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Advice on common storage : Keep away from isocyanates.
: Do not store near acids.
: Keep away from oxidizing agents.

Other data : Stable at normal ambient temperature and pressure.

7:3 Specific end use(s)

Specific use(s) : Consult the technical guidelines for the use of this substance/mixture.

8: Exposure controls/personal protection

8:1 Control parameters

Contains no substances with occupational exposure limit values.

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

benzyl alcohol : End Use: Workers
: Exposure routes: Inhalation
: Potential health effects: Short-term exposure, Systemic effects
: Value: 450 mg/m3
: End Use: Workers
: Exposure routes: Inhalation
: Potential health effects: Long-term exposure, Systemic effects
: Value: 90 mg/m3
: End Use: Workers
: Exposure routes: Skin contact
: Potential health effects: Short-term exposure, Systemic effects
: Value: 47 mg/kg
: End Use: Workers
: Exposure routes: Skin contact
: Potential health effects: Long-term exposure, Systemic effects
: Value: 9,5 mg/kg
: End Use: Consumers
: Exposure routes: Ingestion
: Potential health effects: Short-term exposure, Systemic effects
: Value: 25 mg/kg
: End Use: Consumers
: Exposure routes: Ingestion
: Potential health effects: Long-term exposure, Systemic effects
: Value: 5 mg/kg
: End Use: Consumers
: Exposure routes: Inhalation

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Potential health effects	: Short-term exposure, Systemic effects
	: Value: 40,55 mg/m3
	: End Use: Consumers
	: Exposure routes: Inhalation
	: Potential health effects: Long-term exposure, Systemic effects
	: Value: 8,11 mg/m3
	: End Use: Consumers
	: Exposure routes: Skin contact
	: Potential health effects: Short-term exposure, Systemic effects
	: Value: 28,5 mg/kg
	: End Use: Consumers
	: Exposure routes: Skin contact
	: Potential health effects: Long-term exposure, Systemic effects
	: Value: 5,7 mg/kg
3-aminopropyltriethoxysilane	: End Use: Workers
	: Exposure routes: Skin contact
	: Potential health effects: Acute systemic effects, Long-term systemic effects
	: Value: 8,3 mg/kg
	: End Use: Workers
	: Exposure routes: Inhalation
	: Potential health effects: Acute systemic effects, Long-term systemic effects
	: Value: 59 mg/m3

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

3-aminomethyl-3,5,5-Trimethylcyclohexylamine	: Fresh water
	: Value: 0,06 mg/l
	: Marine water
	: Value: 0,006 mg/l
	: Intermittent releases
	: Value: 0,23 mg/l
	: Fresh water sediment
	: Value: 5,784 mg/kg
	: Marine sediment
	: Value: 0,578 mg/kg
	: Sewage treatment plant
	: Value: 3,18 mg/l
	: Soil
	: Value: 1,121 mg/kg
benzyl alcohol	: Fresh water
	: Value: 1 mg/l

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: Marine water
: Value: 0,1 mg/l
: Fresh water sediment
: Value: 5,27 mg/kg
: Marine sediment
: Value: 0,527 mg/kg
: Soil
: Value: 0,456 mg/kg
: Sewage treatment plant
: Value: 39 mg/l
: Intermittent releases
: Value: 2,3 mg/l

3-aminopropyltriethoxysilane : Fresh water
: Value: 0,33 mg/l
: Marine water
: Value: 0,033 mg/l
: Intermittent releases
: Value: 3,3 mg/l
: Fresh water sediment
: Value: 0,26 mg/kg
: Soil
: Value: 0,04 mg/kg
: Sewage treatment plant
: Value: 13 mg/l

8:2 Exposure controls

Engineering measures

Effective exhaust ventilation system
effective ventilation in all processing areas

Personal protective equipment

Eye protection : Safety glasses with side-shields conforming to EN166
: Do not wear contact lenses.
: Ensure that eyewash stations and safety showers are close to the workstation location.

Hand protection
Material : Protective gloves complying with EN 374.

Skin and body protection : Protective suit

Respiratory protection : Use respirator when performing operations involving potential exposure to vapour of the product.

: The filter class for the respirator must be suitable for the maximum expected contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self contained breathing apparatus must be used.
: Equipment should conform to EN 14387

Protective measures : Avoid contact with skin.
: Wear suitable protective equipment.

9: Physical and chemical properties

9:1 Information on basic physical and chemical properties

Appearance	: liquid
Colour	: light yellow
Odour	: ammoniacal
Odour Threshold	: Not determined
pH	: 11, 1 %
Melting point/freezing point	: Not applicable
Boiling point/boiling range	: > 150 °C
Flash point	: 100 °C
Evaporation rate	: Not determined
Upper explosion limit	: Not applicable
Lower explosion limit	: Not applicable
Vapour pressure	: Not applicable
Relative vapour density	: Not determined
Density	: 1,04 g/cm3 (25 °C)
Bulk density	: Not determined
Solubility(ies)	
Solubility in other solvents	: Not determined
Partition coefficient: noctanol/ water	: No data available
Ignition temperature	: Not applicable
Auto-ignition temperature	: Not applicable
Thermal decomposition	: Method: No data available
Viscosity	
Viscosity, dynamic	: 30 - 80 mPa.s (25 °C)
Viscosity, kinematic	: Not determined
Explosive properties	: Not applicable
Oxidizing properties	: Not applicable

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9:2 Other information

Surface tension : Not determined
Sublimation point : Not applicable

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

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

10:4 Conditions to avoid

Conditions to avoid : No decomposition if used as directed.

10:5 Incompatible materials

Materials to avoid : Strong acids
: Strong oxidizing agents

10:6 Hazardous decomposition products

Hazardous decomposition products : This product may release the following:
Nitrogen oxides (NOx)
Carbon monoxide
Carbon dioxide (CO2)

11: Toxicological information

11:1 Information on toxicological effects

Acute toxicity
Product:
Acute oral toxicity : Acute toxicity estimate : 540,16 mg/kg

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: Method: Calculation method
: Remarks: No data available

Acute inhalation toxicity : Acute toxicity estimate : > 5 mg/l
: Exposure time: 4 h
: Test atmosphere: dust/mist
: Method: Calculation method
: Remarks: No data available

Acute dermal toxicity : Acute toxicity estimate : > 2.000 mg/kg
: Method: Calculation method
: Remarks: No data available

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

Components:

benzyl alcohol:

Acute inhalation toxicity : LC50 (Rat, male and female): > 4.178 mg/l
: Exposure time: 4 h
: Test atmosphere: dust/mist
: Method: OECD Test Guideline 403
: GLP: yes

3,6,9-triazaundecamethylenediamine:

Acute oral toxicity : Acute toxicity estimate : 500 mg/kg
: Method: Converted acute toxicity point estimate

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

Skin corrosion/irritation

Product:

Remarks: No data available

Components:

benzyl alcohol:

Species : Rabbit
Method : OECD Test Guideline 404
Result : No skin irritation
GLP : yes

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

Species : Human skin
Assessment : Causes burns.
Method : OECD Test Guideline 431
Result : Causes burns.
GLP : yes

Serious eye damage/eye irritation

Product:
Remarks: No data available

Components:

benzyl alcohol:

Species : Rabbit
Method : OECD Test Guideline 405
Result : Eye irritation
GLP : 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:
Assessment: May cause sensitisation by skin contact.

3-aminopropyltriethoxysilane:
Test Type : Buehler Test
Exposure routes : Dermal
Species : Guinea pig
Method : OECD Test Guideline 406
Result : May cause sensitisation by skin contact.
GLP : Yes

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Germ cell mutagenicity

Components:

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

Genotoxicity in vitro	:	Test Type: Ames test
Test species	:	Salmonella typhimurium
Metabolic activation	:	with and without metabolic activation
Method	:	OECD Test Guideline 471
Result	:	negative
GLP	:	yes

Carcinogenicity

Product:
Remarks: No data available

Reproductive toxicity

Product:

Effects on fertility	:	Remarks: No data available
	:	Remarks: No data available
Effects on foetal Development	:	Remarks: No data available
	:	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:

Effects on foetal Development	:	Test Type: Pre-natal
	:	Species: Rat
	:	Strain: Sprague-Dawley
	:	Application Route: Oral
	:	General Toxicity Maternal: No observed adverse effect level: 100 mg/kg body weight
	:	Teratogenicity: No observed adverse effect level: 250 mg/kg body weight
	:	Developmental Toxicity: No observed adverse effect level: 250 mg/kg body weight
	:	Embryo-foetal toxicity: No observed adverse effect level:

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: 250mg/kg body weight
: Method: OECD Test Guideline 414
: GLP: yes

STOT - single exposure
STOT - repeated exposure
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:

Species	:	Rat, male and female
NOAEL	:	10 mg/kg
LOAEL	:	100 mg/kg
Application Route	:	Oral
Exposure time	:	90 d
Method	:	OECD Test Guideline 408
GLP	:	Yes
Species	:	Rat, male and female
NOAEL	:	30 mg/kg
Application Route	:	Oral
Exposure time	:	28 d
Method	:	OECD Test Guideline 407
GLP	:	Yes

Aspiration toxicity

Components:

3-aminomethyl-3,5,5-trimethylcyclohexylamine:
No aspiration toxicity classification

Further information

Product:
Remarks: No data available

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 fish : LC50 (Leuciscus idus (Golden orfe)): 110 mg/l
: Exposure time: 96 h
: Test Type: semi-static test
: Method: Directive 67/548/EEC, Annex V, C.1.
: GLP: yes

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

Toxicity to algae : ErC50 (Scenedesmus capricornutum (fresh water algae)): > 50 mg/l
: Exposure time: 72 h
: Test Type: static test
: Method: Directive 67/548/EEC, Annex V, C.3.
: GLP: yes

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 3 mg/l
: Exposure time: 21 d
: Species: Daphnia magna (Water flea)
: Test Type: semi-static test
: GLP: 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 : ErC50 (Pseudokirchneriella subcapitata (green algae)): 770 mg/l
: Exposure time: 72 h
: Test Type: static test
: Method: OECD Test Guideline 201
: GLP: yes

3,6,9,12-tetra-azatetradecamethylenediamine:

M-Factor (Short-term (acute) aquatic hazard) : 1
M-Factor (Long-term (chronic) aquatic hazard) : 1

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

Toxicity to fish : LL50 (Oncorhynchus mykiss (rainbow trout)): 70,7 mg/l
: Exposure time: 96 h
: Test Type: 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
: Test Type: static test
: Method: OECD Test Guideline 202
: GLP: yes

Toxicity to algae : EL50 (Pseudokirchneriella subcapitata (green algae)): 79,4 mg/l
: Exposure time: 72 h
: Test Type: static test
: Method: OECD Test Guideline 201
: GLP: yes

Toxicity to bacteria : (activated sludge): > 1.000 mg/l
: Exposure time: 3 h
: Test Type: Respiration inhibition
: Method: OECD Test Guideline 209
: GLP: yes

3-aminopropyltriethoxysilane:

Toxicity to fish : LC50 (Danio rerio (zebra fish)): > 934 mg/l
: Exposure time: 96 h
: Test Type: 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
: Test Type: static test
: Method: OECD Test Guideline 202
: GLP: yes

Toxicity to algae : EC50 (Scenedesmus subspicatus): > 1.000 mg/l
: Exposure time: 72 h
: Test Type: static test
: Method: Directive 67/548/EEC, Annex V, C.3.
: GLP: yes

12:2 Persistence and degradability

Product:
Biodegradability : Remarks: No data available

Physico-chemical removability : 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.
: GLP: yes

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

Biodegradability : Test Type: aerobic
: Inoculum: activated sludge
: Result: Not 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.
: GLP: yes

12:3 Bioaccumulative potential

Product:

Bioaccumulation : Remarks: No data available

Components:

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

Partition coefficient: noctanol/
Water : log Pow: 0,99
: 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:

Bioaccumulation : Species: Fish
: Bioconcentration factor (BCF): 5,13
: Method: estimated
: Partition coefficient: noctanol/ water
: log Pow: 3,6 (25 °C)
: pH: 7
: Method: Regulation (EC) No. 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:

Distribution among environmental compartments : log Koc: > 5,16
: Method: OECD Test Guideline 121

12:5 Results of PBT and vPvB assessment

Product:

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

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

13: Disposal considerations

13:1 Waste treatment methods

Product : In accordance with local and national regulations.
: Container hazardous when empty.
: Do not dispose of with domestic refuse.
: Do not mix waste streams during collection.

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

14: Transport information

14:1 UN number

ADR/RID/AND : UN 2735
IMDG : UN 2735
IATA : UN 2735

14:2 UN proper shipping name

ADR/RID/ADN : AMINES, LIQUID, CORROSIVE, N.O.S. (Isophorone diamine, Pentaethylenehexamine)
IMDG : AMINES, LIQUID, CORROSIVE, N.O.S. (ISOPHORONEDIAMINE, Pentaethylenehexamine)
IATA : Amines, liquid, corrosive, n.o.s. (Isophorone diamine, Pentaethylenehexamine)

14:3 Transport hazard class(es)

ADR/RID/AND : 8
IMDG : 8
IATA : 8

14:4 Packing group

ADR/RID/ADN

Packing group	: III
Classification Code	: C7
Hazard Identification Number	: 80
Labels	: 8
Tunnel restriction code	: E
Remarks	:

IMDG

Packing group	: III
Labels	: 8
EmS Code	: F-A, S-B
Remarks	: IMDG Code segregation group 18 - Alkalis

IATA

Packing instruction (cargo aircraft)	: 856
Packing instruction (passenger aircraft)	: 852
Packing group	: III
Labels	: 8

14:5 Environmental hazards

ADR/RID/ADN

Environmentally hazardous	: yes

IMDG

Marine pollutant	: yes

IATA

Environmentally hazardous	: yes

14:6 Special precautions for user

Remarks	: The transport of dangerous goods, including their loading and unloading, must be done by people who received the necessary training required by Modal Regulations.

14:7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

15: Regulatory information

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

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII) : Not applicable

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). : This product does not contain substances of very high concern (Regulation (EC) No 1907/2006 (REACH), Article 57).

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

Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals : 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	ENVIRONMENTAL HAZARDS	Quantity 1 200 t	Quantity 2 500 t

Other regulations : For the product composition, we do not add any of the substances listed in the European Directive 2011/65/EU (RoHS 2, RoHS 3, and China RoHS).
The product is thus in line with those directives.
We do not add Conflict minerals to the product.

15:2 Chemical safety assessment

Not applicable

16: Other information

Full text of H-Statements

H302 : Harmful if swallowed.
H312 : Harmful in contact with skin.

MATERIAL DATA SAFETY SHEET

Version 5.0 SDB_GB Revision Date 28.11.2020 Cristex Date 25.04.2022

H314	:	Causes severe skin burns and eye damage.
H317	:	May cause an allergic skin reaction.
H318	:	Causes serious eye damage.
H319	:	Causes serious eye irritation.
H332	:	Harmful if inhaled.
H373	:	May cause damage to organs through prolonged or repeated exposure if swallowed.
H400	:	Very toxic to aquatic life.
H410	:	Very toxic to aquatic life with long lasting effects.
H411	:	Toxic to aquatic life with long lasting effects.
H412	:	Harmful to aquatic life with long lasting effects.

Full text of other abbreviations

Acute Tox.	:	Acute toxicity
Aquatic Acute	:	Short-term (acute) aquatic hazard
Aquatic Chronic	:	Long-term (chronic) aquatic hazard
Eye Dam.	:	Serious eye damage
Eye Irrit.	:	Eye irritation
Skin Corr.	:	Skin corrosion
Skin Sens.	:	Skin sensitisation
STOT RE	:	Specific target organ toxicity - repeated exposure

Further information

Training advice : Provide adequate information, instruction and training for

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.