

C-SYSTEMS 10 10 CFS comp. B STANDARD

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

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

Trade name: **C-SYSTEMS 10 10 CFS component B STANDARD**

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

Company Cecchi Gustavo & C. srl - Via M. Coppino 253,
55049 Viareggio (LU) ITALY www.cecchi.it - info@cecchi.it

Information in case of emergency: +39 0584 383694 - info@cecchi.it

From monday to friday office hours 8:30 – 12:30, 14:00 – 18:30

SECTION 2: Hazards identification

SECTION 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 1B	H314: Causes severe skin burns and eye damage.
Skin sensitisation , Category 1	H317: May cause an allergic skin reaction.
Reproductive toxicity , Category 2	H361f: Suspected of damaging fertility.
Chronic aquatic toxicity , Category 2	H411: Toxic to aquatic life with long lasting effects.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

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.

H361f Suspected of damaging fertility.

H411 Toxic to aquatic life with long lasting effects.

Precautionary statements : **Prevention:**

P201 Obtain special instructions before use.

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

P281 Use personal protective equipment as
required.

Response:

P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take
off immediately all contaminated clothing.

Rinse skin with water/ shower.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with
water for several minutes. Remove contact
lenses, if present and easy to do. Continue
rinsing.

P310 Immediately call a POISON
CENTER/doctor.

Hazardous components which must be listed on the label:
benzyl alcohol

3,6,9-triazaundecamethylenediamine

3-aminomethyl-3,5,5-trimethylcyclohexylamine

Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol,
reaction products with 3-aminomethyl-3,5,5-tri

4,4'-isopropylidenediphenol

m-phenylenebis(methylamine)



2-piperazin-1-ylethylamine

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.

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

Chemical nature : Cycloaliphatic amine based mixture

Chemical Name	CAS-No. EC-No. Registration number	Classification (REGULATION (EC) No 1272/2008)	Concentration (%)
benzyl alcohol	100-51-6 202-859-9 01-2119492630-38	Acute Tox.4; H302 Acute Tox.4; H332 Eye Irrit.2; H319	>= 30 - < 50
Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-(2-aminomethylethyl)- .omega.-(2-aminomethylethoxy)-	9046-10-0	Skin Corr.1C; H314 Eye Dam.1; H318 Aquatic Chronic2; H411	>= 20 - < 25
3,6,9-triazaundecamethylenediamine	112-57-2 203-986-2 /	Acute Tox.4; H312 Acute Tox.4; H302 Skin Corr.1B; H314 Skin Sens.1; H317 Aquatic Chronic2; H411	>= 12,5 - < 20
3-aminomethyl-3,5,5-trimethylcyclohexylamine	2855-13-2 220-666-8 01-2119514687-32	Acute Tox.4; H312 Acute Tox.4; H302 Skin Corr.1B; H314 Skin Sens.1; H317 Aquatic Chronic3; H412	>= 12,5 - < 20
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol, reaction products with 3-aminomethyl-3,5,5-tri	161278-21-3	Acute Tox.4; H302 Acute Tox.4; H312 Skin Corr.1B; H314 Skin Sens.1; H317 Aquatic Chronic3; H412	>= 7 - < 10
4,4'-isopropylidenediphenol	80-05-7 201-245-8 01-2119529244-43	Repr.2; H361f STOT SE3; H335 Eye Dam.1; H318 Skin Sens.1; H317 Aquatic Chronic2; H411	>= 3 - < 5
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	>= 3 - < 5
2-piperazin-1-ylethylamine	140-31-8 205-411-0	Acute Tox.4; H302 Skin Corr.1B; H314	>= 1 - < 2,5

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	01-2119471486-30	Skin Sens.1; H317 Aquatic Chronic3; H412 Acute Tox.3; H311 1; H318	
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SECTION 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.

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 : corrosive effects

Burn

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.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Carbon dioxide (CO₂)

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.

**SECTION 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.

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.

SECTION 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 wellventilated 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.

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.

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

Components	N. CAS	Value type (Form of exposure)	Control parameters	Basis
4,4'- isopropylidenediphenol	80-05-7	TWA (inhalable dust)	10 mg/m3	GB EH40
Further information	Where no specific short-term exposure limit is listed, a figure three times the			

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	long-term exposure should be used		
	TWA (inhalable dust)	10 mg/m ³	2009/161/EU
Further information	Indicative		

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

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

Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-(2-aminomethylethyl)-.omega.-(2-aminomethylethoxy)-

: End Use: Workers

Exposure routes: Skin contact

Potential health effects: Long-term systemic effects

Value: 2,5 mg/kg

End Use: Workers

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Exposure routes: Skin contact
Potential health effects: Long-term local effects
Value: 0,623 mg/cm²
End Use: Consumers
Exposure routes: Skin contact
Potential health effects: Long-term systemic effects
Value: 1,25 mg/kg
End Use: Consumers
Exposure routes: Skin contact
Potential health effects: Long-term local effects
Value: 0,311 mg/cm²
End Use: Consumers
Exposure routes: Ingestion
Potential health effects: Long-term systemic effects
Value: 0,04 mg/kg

4,4'-isopropylidenediphenol : End Use: Consumers
Exposure routes: Inhalation
Potential health effects: Acute local effects
Value: 5 mg/m³
End Use: Consumers
Exposure routes: Inhalation
Potential health effects: Acute systemic effects
Value: 5 mg/m³
End Use: Consumers
Exposure routes: Inhalation
Potential health effects: Long-term local effects
Value: 5 mg/m³
End Use: Consumers
Exposure routes: Ingestion
Potential health effects: Long-term systemic effects
Value: 0,05 mg/kg
End Use: Consumers
Exposure routes: Inhalation
Potential health effects: Long-term systemic effects
Value: 0,25 mg/m³
End Use: Consumers
Exposure routes: Skin contact
Potential health effects: Long-term systemic effects
Value: 0,7 mg/kg
End Use: Workers
Exposure routes: Inhalation
Potential health effects: Acute local effects
Value: 10 mg/m³
End Use: Workers
Exposure routes: Inhalation
Potential health effects: Acute systemic effects
Value: 10 mg/m³
End Use: Workers
Exposure routes: Inhalation
Potential health effects: Long-term local effects
Value: 10 mg/m³
End Use: Workers
Exposure routes: Inhalation
Potential health effects: Long-term systemic effects
Value: 10 mg/m³
End Use: Workers
Exposure routes: Skin contact

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Potential health effects: Long-term systemic effects
Value: 1,4 mg/kg

2-piperazin-1-ylethylamine : End Use: Workers
Exposure routes: Skin contact
Potential health effects: Short-term exposure, Systemic effects
Value: 20 mg/kg

End Use: Workers
Exposure routes: Skin contact
Potential health effects: Short-term exposure, Local effects
Value: 0,04 mg/cm²

End Use: Workers
Exposure routes: Skin contact
Potential health effects: Long-term systemic effects
Value: 3,3 mg/kg

End Use: Workers
Exposure routes: Inhalation
Potential health effects: Long-term systemic effects
Value: 3,6 mg/m³

End Use: Workers
Exposure routes: Skin contact
Potential health effects: Long-term local effects
Value: 0,006 mg/cm²

End Use: Consumers
Exposure routes: Skin contact
Potential health effects: Short-term exposure, Systemic effects
Value: 10 mg/kg

End Use: Consumers
Exposure routes: Inhalation
Potential health effects: Short-term exposure, Systemic effects
Value: 5,3 mg/m³

End Use: Consumers
Exposure routes: Ingestion
Potential health effects: Short-term exposure, Systemic effects
Value: 1,5 mg/kg

End Use: Workers
Exposure routes: Inhalation
Potential health effects: Short-term exposure, Systemic effects
Value: 21,4 mg/m³

End Use: Consumers
Exposure routes: Skin contact
Potential health effects: Short-term exposure, Local effects
Value: 0,02 mg/cm²

End Use: Consumers
Exposure routes: Skin contact
Potential health effects: Long-term systemic effects
Value: 1,7 mg/kg

End Use: Consumers
Exposure routes: Inhalation
Potential health effects: Long-term systemic effects
Value: 0,9 mg/m³

End Use: Consumers
Exposure routes: Ingestion
Potential health effects: Long-term systemic effects
Value: 0,3 mg/kg

End Use: Consumers
Exposure routes: Skin contact
Potential health effects: Long-term local effects

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Value: 0,003 mg/cm²

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

benzyl alcohol : Fresh water

Value: 1 mg/l

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

Poly[oxy(methyl-1,2- ethanediyl)], .alpha.-(2- aminomethylethyl)-.omega.-(2- aminomethylethoxy)-

: Fresh water

Value: 0,015 mg/l

Marine water

Value: 0,0143 mg/l

Fresh water sediment

Value: 0,132 mg/kg

Marine sediment

Value: 0,125 mg/kg

Soil

Value: 0,0176 mg/kg

Intermittent releases

Value: 0,15 mg/l

Sewage treatment plant

Value: 7,5 mg/l

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

4,4'-isopropylidenediphenol : Fresh water

Value: 0,018 mg/l

Intermittent releases

Value: 0,01 mg/l

Marine water

Value: 0,016 mg/l

Fresh water sediment

Value: 2,2 mg/kg

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Marine sediment

Value: 0,44 mg/kg

2-piperazin-1-ylethylamine : Fresh water

Value: 0,058 mg/l

Marine water

Value: 0,0058 mg/l

Intermittent releases

Value: 0,58 mg/l

Fresh water sediment

Value: 215 mg/kg

Marine sediment

Value: 21,5 mg/kg

Soil

Value: 42,9 mg/kg

Sewage treatment plant

Value: 250 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 : Chemical resistant gloves made of butyl rubber or nitrile rubber category III according to 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, selfcontained breathing apparatus must be used.

Respirator with a vapour filter (EN 141)

Protective measures : Avoid contact with skin.

Wear suitable protective equipment.

SECTION 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 :	not determined
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 :	1,01 g/cm ³ (25 °C)
Bulk density :	not determined
Solubility(ies)	
Solubility in other solvents :	not determined
Partition coefficient: noctanol/water:	No data available
Auto-ignition temperature :	Not applicable

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Thermal decomposition : Method: No data available
Viscosity
Viscosity, dynamic : 350 - 550 mPa.s (25 °C)
Viscosity, kinematic : not determined
Explosive properties : Not applicable
Oxidizing properties : Not applicable

9.2 Other information

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

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 (NO_x)

Carbon monoxide

Carbon dioxide (CO₂)

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product:

Acute oral toxicity : Acute toxicity estimate : 618,59 mg/kg

Method: Calculation method

Acute inhalation toxicity : Acute toxicity estimate : > 5 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

Method: Calculation method

Acute dermal toxicity : Acute toxicity estimate : > 2.000 mg/kg

Method: Calculation method

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

Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-(2-aminomethylethyl)-.omega.-(2-aminomethylethoxy)-:

Acute oral toxicity : LD50 (Rat, male and female): 2.885,3 mg/kg

Method: OECD Test Guideline 401

GLP: yes

Acute dermal toxicity : LD50 (Rabbit, male and female): 2.979,7 mg/kg

Method: OECD Test Guideline 402

GLP: yes

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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

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

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

2-piperazin-1-ylethylamine:

Acute oral toxicity : LD50 (Rat, male): 2.097 mg/kg

Acute dermal toxicity : LD50 (Rabbit, male): 866 mg/kg

Skin corrosion/irritation

Product:

Remarks: Acute dermal irritation/corrosion

Components:

benzyl alcohol:

Species: Rabbit

Method: OECD Test Guideline 404

Result: No skin irritation

GLP: yes

Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-(2-aminomethylethyl)-.omega.-(2-aminomethylethoxy)-:

Species: Rabbit

Method: OECD Test Guideline 404

Result: Corrosive

4,4'-isopropylidenediphenol:

Species: Rabbit

Method: OECD Test Guideline 404

Result: No skin irritation

GLP: yes

2-piperazin-1-ylethylamine:

Species: Rabbit

Result: Corrosive

Serious eye damage/eye irritation

Product:

Remarks: Severe eye irritation

Components:

benzyl alcohol:

Species: Rabbit

Method: OECD Test Guideline 405

Result: Eye irritation

GLP: yes

Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-(2-aminomethylethyl)-.omega.-(2-aminomethylethoxy)-:

Method: OECD Test Guideline 405

Result: Risk of serious damage to eyes.

4,4'-isopropylidenediphenol:

Species: Rabbit

Method: OECD Test Guideline 405

Result: Risk of serious damage to eyes.

GLP: yes

2-piperazin-1-ylethylamine:

Species: Rabbit

Result: Risk of serious damage to eyes.

Respiratory or skin sensitisation

Product:

Remarks: No data available

Components:

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2-piperazin-1-ylethylamine:

Test Type: Maximisation Test
Exposure routes: Dermal
Species: Guinea pig
Method: OECD Test Guideline 406
Result: May cause sensitisation by skin contact.

Germ cell mutagenicity

Carcinogenicity

Reproductive toxicity

STOT - single exposure

STOT - repeated exposure

Repeated dose toxicity

Product:

Remarks: No data available

Aspiration toxicity

Components:

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

No aspiration toxicity classification

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:

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

Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-(2-aminomethylethyl)-.omega.-(2-aminomethylethoxy)-:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 15 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)): 80 mg/l
Exposure time: 48 h
Test Type: static test
Method: OECD Test Guideline 202
GLP: yes
Toxicity to algae : NOEC (Pseudokirchneriella subcapitata (green algae)): 0,32 mg/l
Exposure time: 72 h

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Test Type: static test
Method: OECD Test Guideline 201
GLP: yes

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

4,4'-isopropylidenediphenol:

Toxicity to fish : LC50 (Menidia menidia (Atlantic silverside)): 9,4 mg/l

Exposure time: 96 h

Test Type: flow-through test

Method: OECD Test Guideline 203

GLP: yes

2-piperazin-1-ylethylamine:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 2.190 mg/l

Exposure time: 96 h

Test Type: static test

Toxicity to daphnia and other aquatic invertebrates

: EC50 (Daphnia magna (Water flea)): 58 mg/l

Exposure time: 48 h

Method: OECD Test Guideline 202

GLP: yes

Toxicity to algae : ErC50 (Selenastrum capricornutum (green algae)): > 1.000mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

GLP: yes

12.2 Persistence and degradability

Product:

Biodegradability : Remarks: No data available

Components:

Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-(2-aminomethylethyl)-.omega.-(2-aminomethylethoxy)-:

Biodegradability : Test Type: aerobic

Result: Not readily biodegradable.

Method: OECD Test Guideline 301B

GLP: yes

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

Biodegradability : Test Type: aerobic

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Result: Not readily biodegradable.

Method: Directive 67/548/EEC Annex V, C.4.A.

GLP: yes

4,4'-isopropylidenediphenol:

Biodegradability : Test Type: aerobic

Result: Readily biodegradable

Method: OECD Test Guideline 301F

GLP: yes

2-piperazin-1-ylethylamine:

Biodegradability : Result: Not readily biodegradable.

Method: OECD Test Guideline 301F

GLP: yes

12.3 Bioaccumulative potential

Product:

Bioaccumulation : Remarks: No data available

Components:

Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-(2-aminomethylethyl)-.omega.-(2-aminomethylethoxy)-:

Partition coefficient: noctanol/water: log Pow: 1,34 (25 °C)

Method: OECD Test Guideline 117

GLP: yes

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

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

Method: OECD Test Guideline 107

GLP: yes

4,4'-isopropylidenediphenol:

Partition coefficient: noctanol/water: log Pow: 3,4 (21,5 °C)

pH: 6,4

Method: OECD Test Guideline 107

GLP: yes

2-piperazin-1-ylethylamine:

Partition coefficient: noctanol/water: log Pow: -1,48 (20 °C)

12.4 Mobility in soil

Components:

2-piperazin-1-ylethylamine:

Distribution among environmental compartments: Medium:Soil

Koc: 37000

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.

SECTION 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.

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SECTION 14: Transport information

14.1 UN number

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

14.3 Transport hazard class(es)

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

14.4 Packing group

ADR/RID/ADN
Packing group : III
Classification Code : C7
Hazard Identification Number : 80
Labels : 8

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

14.6 Special precautions for user

Not applicable

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

Not applicable for product as supplied.

SECTION 15: Regulatory information

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

REACH - Restrictions on the manufacture, placing on : Not applicable
the market and use of certain dangerous substances,

preparations and articles (Annex XVII)

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

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	Quantity 2
	200 t	500 t

15.2 Chemical safety assessment

Not applicable

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SECTION 16: Other information

Full text of H-Statements

H302 : Harmful if swallowed.
H311 : Toxic in contact with skin.
H312 : Harmful in contact with skin.
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.
H335 : May cause respiratory irritation.
H361f : Suspected of damaging fertility.
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 Chronic : Chronic aquatic toxicity
Eye Dam. : Serious eye damage
Eye Irrit. : Eye irritation
Repr. : Reproductive toxicity
Skin Corr. : Skin corrosion
Skin Sens. : Skin sensitisation
STOT SE : Specific target organ toxicity - single exposure

Further information

Training advice : Provide adequate information, instruction and training for operators.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.