



Safety data sheet

According to regulation (EC) 1907/2006, 453/2010

Revision date: October 2014

Product name: Crystalline epoxy resin EC 141

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

1.1 Product identifier

Trade name: Crystalline epoxy resin EC 141

1.2 Relevant identified uses of the substance or mixture and uses advised against Use of the Substance/Mixture: Electrical Insulation

1.3 Details of the supplier of the safety data sheet

Company: Esprit Composite
22, Rue Gassendi
F-75014 Paris
France
Tel: +33 1 4044 4797
Fax: +33 1 4044 4951
www.espritcomposite.com
contact@espritcomposite.fr

Telephone

Telefax

Website:

E-mail:

1.4 Emergency telephone number:

NHS Direct England or Wales: +44 0845 4647
NHS 24 Scotland (UK only): +44 08454 242424

SECTION 2. Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Skin irritation, Category 2

Eye irritation, Category 2

Skin sensitisation, Category 1

Chronic aquatic toxicity, Category 2

Classification (67/548/EEC, 1999/45/EC)

Sensitising

Irritant

Dangerous for the environment

H315: Causes skin irritation.
H319: Causes serious eye irritation.
H317: May cause an allergic skin reaction.
H411: Toxic to aquatic life with long lasting effects.

R43: May cause sensitization by skin contact.
R36/38: Irritating to eyes and skin.
R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms:



Signal word:

Hazard statements:

Warning
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H411 Toxic to aquatic life with long lasting effects.
EUH205 Contains epoxy constituents. May produce an allergic reaction.

Precautionary statements:

Prevention:

P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/spray.
P273 Avoid release to the environment.
P280 Wear eye protection/ face protection.
P280 Wear protective gloves.



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Response:

P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.

P337 + P313 If eye irritation persists: Get medical advice/attention.

Hazardous components which must be listed on the label:

- reaction product: bisphenol-A-(epichlorhydrin) and epoxy resin (number average molecular weight \leq 700)
- oxirane, mono[(C12-14-alkyloxy)methyl]derivatives
- 1,4-bis(2,3-epoxypropoxy)butane
- bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate

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:

Modified epoxy resin

Hazardous components:

Chemical name	CAS No. EC No. Registration number	Classification (67/548/CEE)	Classification (Regulation (EC) No 1272/2008)	Concentration (%)
reaction product: bisphenol-A- (epichlorhydrin) and epoxy resin (number average molecular weight \leq 700)	25068-38-6 01-2119456619- 26	Xi; R36/38 R43 N; R51-R53	Eye Irrit. 2; H319 Skin Irrit. 2; H315 Skin Sens. 1; H317 Aquatic Chronic 2; H411	\geq 50 - \leq 100
oxirane, mono[(C12-14- alkyloxy)methyl]derivatives	68609-97-2 271-846-8 01-2119485289- 22	Xi; R38 R43	Skin Irrit. 2; H315 Skin Sens. 1; H317	\geq 10 - $<$ 12,5
1,4-bis(2,3- epoxypropoxy)butane	2425-79-8 219-371-7 01-2119494060- 45	Xn; R20/21 Xi; R36/38 R43	Acute Tox. 4; H332 Acute Tox. 4; H312 Eye Irrit. 2; H319 Skin Irrit. 2; H315 Skin Sens. 1; H317	\geq 5 - $<$ 7
bis(1,2,2,6,6-pentamethyl- 4-piperidyl) sebacate	41556-26-7 255-437-1	Xi; R43 N; R50/53	Skin Sens. 1; H317 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	\geq 0,1 - $<$ 0,25

For explanation of abbreviations see section 16.

SECTION 4. First aid measures:

4.1 Description of first aid measures

General advice:

Keep warm and in a quiet place.

Show this safety data sheet to the doctor in attendance.

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.

If skin irritation persists, call 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:

Keep at rest.

Do not induce vomiting without medical advice.

Keep respiratory tract clear.

If symptoms persist, call a physician.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms:

irritant effects

Redness

sensitizing effects

4.3 Indication of any immediate medical attention and special treatment needed

Treatment:

No information available.

SECTION 5. Fire fighting measures

5.1 Extinguishing media

Suitable extinguishing media:

Foam

Sand

Carbon dioxide (CO₂)

Water mist

Unsuitable extinguishing media:

Water spray jet

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.

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.



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Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

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 labeled 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.
Avoid inhalation, ingestion and contact with skin and eyes.
Wear personal protective equipment.
Persons with a history of skin sensitization 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 labeled containers.



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Advice on common storage:

Keep away from oxidizing agents, strongly acid or alkaline materials and amines.
Keep product and empty container away from heat and sources of ignition.
Keep away from food and drink.
Stable at normal ambient temperature and pressure.

Other data:

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

Contains no substances with occupational exposure limit values.

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

reaction product: bisphenol-A-(epichlorhydrin) and epoxy resin (number average molecular weight \leq 700):

End Use: Workers
Exposure routes: Skin contact
Potential health effects: Acute systemic effects, Long-term systemic effects
Value: 8,33 mg/kg

End Use: Workers
Exposure routes: Inhalation
Potential health effects: Acute systemic effects, Long-term local effects
Value: 12,25 mg/m³

End Use: Consumers
Exposure routes: Skin contact
Potential health effects: Acute systemic effects, Long-term systemic effects
Value: 3,571 mg/kg

End Use: Consumers
Exposure routes: Ingestion
Potential health effects: Acute systemic effects, Long-term systemic effects
Value: 0,75 mg/kg

oxirane, mono[(C12-14-alkyloxy)methyl]derivatives:

End Use: Workers
Exposure routes: Skin contact
Potential health effects: Long-term systemic effects
Value: 3,9 mg/kg

End Use: Workers
Exposure routes: Inhalation
Potential health effects: Long-term systemic effects
Value: 13,8 mg/m³

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

reaction product: bisphenol-A-(epichlorhydrin) and epoxy resin (number average molecular weight \leq 700):

Fresh water
Value: 0,006 mg/l

Marine water
Value: 0,0006 mg/l

Intermittent releases
Value: 0,018 mg/l



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oxirane, mono[(C12-14-alkyloxy)methyl]derivatives:

Sewage treatment plant

Value: 10 mg/l

Fresh water sediment

Value: 0,996 mg/kg

Marine sediment

Value: 0,0996 mg/kg

Soil

Value: 0,196 mg/kg

Sewage treatment plant

Value: 10 mg/l

Fresh water

Value: 0,0072 mg/l

Marine water

Value: 0,00072 mg/l

Fresh water sediment

Value: 66,77 mg/kg

Marine sediment

Value: 6,677 mg/kg

Soil

Value: 80,12 mg/kg

8.2 Exposure controls

Engineering measures:

Effective exhaust ventilation system

effective ventilation in all processing areas

Personal protective equipment

Eye protection:

Do not wear contact lenses.

Safety glasses with side-shields conforming to EN166

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 respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines.

In the case of vapor formation use a respirator with an approved filter.

Respirator with a vapor filter (EN 141)

Apply technical measures to comply with the occupational exposure limits.

This should be achieved by a good general extraction and –if practically feasible– by the use of a local exhaust ventilation.

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:

colorless



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Odour:	slight
Odour Threshold:	not determined
pH:	not determined
Melting point/freezing point:	Not applicable
Boiling point/boiling range:	> 200 °C
Flash point:	150 °C
Evaporation rate:	not determined
Upper explosion limit:	Not applicable
Lower explosion limit:	Not applicable
Vapor pressure:	Not applicable
Relative vapor density:	not determined
Density:	1,12 g/cm ³ (25 °C)
Bulk density:	not determined
Solubility(ies)	
Solubility in other solvents:	not determined
Partition coefficient: n-octanol/water:	No data available
Auto-ignition temperature:	Not applicable
Thermal decomposition:	Method: No data available
Viscosity	
Viscosity, dynamic:	700 - 1.000 mPa.s (25 °C)
Viscosity, kinematic:	not determined
Explosive properties:	Not applicable
Oxidizing properties:	Not applicable
<u>9.2 Other information</u>	
Surface tension:	not determined
Sublimation point:	Not applicable

SECTION 10. Stability and reactivity

10.1 Reactivity

Reactivity:

Stable under recommended storage conditions.

10.2 Chemical stability

Chemical stability:

No decomposition if stored and applied as directed.

10.3 Possibility of hazardous reactions

Hazardous reactions:

Reacts with the following substances:

Bases

Strong oxidizing agents

Avoid amines.

10.4 Conditions to avoid

Conditions to avoid:

No decomposition if used as directed.

10.5 Incompatible materials

Materials to avoid:

Incompatible with oxidizing agents.

10.6 Hazardous decomposition products

Hazardous decomposition products:

This product may release the following:

Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke).

SECTION 11. Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product:

Acute oral toxicity : Remarks: No data available



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Components:

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

reaction product: bisphenol-A-(epichlorhydrin) and epoxy resin (number average molecular weight <= 700):

Acute oral toxicity : LD50 (Rat, female): > 2.000 mg/kg

Method: OECD Test Guideline 420

GLP: yes

Acute dermal toxicity : LD50 (Rat, male and female): > 2.000 mg/kg

Method: OECD Test Guideline 402

GLP: yes

Skin corrosion/irritation

Product:

Components:

Remarks: No data available

reaction product: bisphenol-A-(epichlorhydrin) and epoxy resin (number average molecular weight <= 700):

Species: Rabbit

Exposure time: 4 h

Method: OECD Test Guideline 404

Result: Skin irritation

GLP: yes

Serious eye damage/eye irritation

Product:

Respiratory or skin sensitization

Product:

Components:

Remarks: No data available

Remarks: No data available

reaction product: bisphenol-A-(epichlorhydrin) and epoxy resin (number average molecular weight <= 700):

Test Type: Mouse Local Lymph Node assay (LLNA)

Species: Mouse

Method: OECD Test Guideline 429

Result: May cause sensitization by skin contact.

GLP: yes

Germ cell mutagenicity

Carcinogenicity

Reproductive toxicity

STOT - single exposure

Product:

STOT - repeated exposure

Repeated dose toxicity

Product:

Aspiration toxicity

Remarks: Not applicable

Remarks: No data available



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Components:

reaction product: bisphenol-A-(epichlorhydrin) and epoxy resin (number average molecular weight <= 700):

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:

reaction product: bisphenol-A-(epichlorhydrin) and epoxy resin (number average molecular weight <= 700):

Toxicity to daphnia and other aquatic invertebrates:

EC50 (Daphnia (water flea)): 1,7 mg/l

Exposure time: 48 h

Test Type: static test

Method: OECD Test Guideline 202

GLP: yes

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):

NOEC: 0,3 mg/l

Exposure time: 21 d

Species: Daphnia magna (Water flea)

Test Type: semi-static test

Method: OECD Test Guideline 211

GLP: yes

12.2 Persistence and degradability

Product:

Biodegradability:

Remarks: No data available

Components:

reaction product: bisphenol-A-(epichlorhydrin) and epoxy resin (number average molecular weight <= 700):

Biodegradability:

Result: Not readily biodegradable.

Method: OECD Test Guideline 301F

GLP: yes

12.3 Bioaccumulative potential

Product:

Bioaccumulation:

Remarks: No data available

12.4 Mobility in soil

Mobility in soil:

No data available

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.



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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.

SECTION 14. Transport information

14.1 UN number

ADR/RID:

UN 3082

IMDG:

UN 3082

IATA:

UN 3082

14.2 UN proper shipping name

ADR/RID:

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Epoxy resin)

IMDG:

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Epoxy resin)

IATA:

Environmentally hazardous substance, liquid, n.o.s. (Epoxy resin)

14.3 Transport hazard class(es)

ADR/RID:

9

IMDG:

9

IATA:

9

14.4 Packing group

ADR/RID

Packing group:

III

Classification Code:

M6

Hazard Identification Number:

90

Labels:

9

Tunnel restriction code:

E

IMDG

Packing group:

III

Labels:

9

EmS Code:

F-A, S-F

IATA

Packing instruction (cargo aircraft):

964

Packing instruction (passenger aircraft):

964

Packing group:

III

Labels:

9

14.5 Environmental hazards

ADR/RID

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.



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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 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 Authorization (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 authorization (Annex XIV): Not applicable

Seveso II - Directive 2003/105/EC amending Council Directive 96/82/EC on the control of major accident hazards involving dangerous substances:

	Quantity 1	Quantity 2
9b Dangerous for the environment	200 t	500 t

15.2 Chemical Safety Assessment

Not applicable

SECTION 16. Other information

Full text of R-Phrases

R20/21:	Harmful by inhalation and in contact with skin.
R36/38:	Irritating to eyes and skin.
R38:	Irritating to skin.
R43:	May cause sensitization by skin contact.
R50/53:	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R51:	Toxic to aquatic organisms.
R53:	May cause long-term adverse effects in the aquatic environment.

Full text of H-Statements

H312:	Harmful in contact with skin.
H315:	Causes skin irritation.
H317:	May cause an allergic skin reaction.
H319:	Causes serious eye irritation.
H332:	Harmful if inhaled.
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.

Full text of other abbreviations

Acute Tox.:	Acute toxicity
Aquatic Acute:	Acute aquatic toxicity
Aquatic Chronic:	Chronic aquatic toxicity
Eye Irrit.:	Eye irritation
Skin Irrit.:	Skin irritation
Skin Sens.:	Skin sensitization

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.