

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 09.06.2021

Version number 1

Revision: 09.06.2021

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

- **1.1 Product identifier**
- **Trade name: Epoxy Curing Agent**
- **Article number:** Cardolite NX-5653
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
- **Sector of Use** SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites
- **Product category** PC9a Coatings and paints, thinners, paint removers
- **Application of the substance / the mixture** Coating
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
CARDOLITE SPECIALTY CHEMICALS EUROPE N.V.
Wijmenstraat 21 K , Bus 2
9030 Mariakerke – Gent
Tel. : +32 9 265.88.26 (Belgium)
Fax. : +32 9 265.88.24 (Belgium)
regulatory@cardolite.com
eumSDS@cardolite.com
- **Further information obtainable from:** Product safety department
- **1.4 Emergency telephone number:** During business hours: +32 9 265.88.26 (Belgium)

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS08 health hazard

Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.



GHS05 corrosion

Skin Corr. 1B H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.



GHS09 environment

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Skin Sens. 1 H317 May cause an allergic skin reaction.

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2.2 Label elements**Labelling according to Regulation (EC) No 1272/2008**

The product is classified and labelled according to the CLP regulation.

Hazard pictograms

GHS05 GHS07 GHS08 GHS09

Signal word Danger**Hazard-determining components of labelling:**

Phenol, 2,4,6-tris[[[3-(dimethylamino)propyl]amino]methyl]

m-Phenylenebis(methylamine)

Ethylenediamine

3-Aminopropyldimethylamine

Hazard statements

H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H317 May cause an allergic skin reaction.

H411 Toxic to aquatic life with long lasting effects.

Precautionary statements

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

P103 Read label before use.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or 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.

P321 Specific treatment (see on this label).

P362+P364 Take off contaminated clothing and wash it before reuse.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards**Results of PBT and vPvB assessment****PBT:** Not applicable.**vPvB:** Not applicable.**SECTION 3: Composition/information on ingredients****3.2 Chemical characterisation: Mixtures****Description:** Mixture of substances listed below with nonhazardous additions.

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· Dangerous components:

| | | |
|--|---|---------|
| | Phenol, 2,4,6-tris[[[3-(dimethylamino)propyl]amino]methyl] ⚠ Aquatic Chronic 2, H411; ⚠ Acute Tox. 4, H302 | < 25.0% |
| CAS: 90-72-2 EINECS: 202-013-9 Index number: 603-069-00-0 | 2,4,6-Tris(Dimethylaminomethyl)Phenol ⚠ Acute Tox. 4, H302; Acute Tox. 4, H312; Skin Irrit. 2, H315; Eye Irrit. 2, H319 | < 5.0% |
| CAS: 1477-55-0 EINECS: 216-032-5 Reg.nr.: 01-2119480150-50-0000 | m-Phenylenebis(methylamine) ⚠ Skin Corr. 1B, H314; ⚠ Acute Tox. 4, H302; Acute Tox. 4, H332; Skin Sens. 1, H317; Aquatic Chronic 3, H412 | < 5.0% |
| CAS: 109-55-7 EINECS: 203-680-9 Index number: 612-061-00-6 | 3-Aminopropyldimethylamine ⚠ Flam. Liq. 3, H226; ⚠ Skin Corr. 1B, H314; ⚠ Acute Tox. 4, H302; Acute Tox. 4, H312; Skin Sens. 1, H317 | < 3.0% |
| CAS: 107-15-3 EINECS: 203-468-6 Index number: 612-006-00-6 Reg.nr.: 01-2119480383-37-0012 | Ethylenediamine ⚠ Flam. Liq. 3, H226; ⚠ Resp. Sens. 1, H334; ⚠ Skin Corr. 1B, H314; ⚠ Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332; Skin Sens. 1, H317 | < 2.0% |

· SVHC

107-15-3 Ethylenediamine

· Additional information: For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

· 4.1 Description of first aid measures**· General information:** Immediately remove any clothing soiled by the product.**· After inhalation:**

Supply fresh air and to be sure call for a doctor.

In case of unconsciousness place patient stably in side position for transportation.

· After skin contact: Immediately wash with water and soap and rinse thoroughly.**· After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.**· After swallowing:** Drink plenty of water and provide fresh air. Call for a doctor immediately.**· 4.2 Most important symptoms and effects, both acute and delayed**

No further relevant information available.

· 4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

SECTION 5: Firefighting measures

· 5.1 Extinguishing media**· Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.**· 5.2 Special hazards arising from the substance or mixture**

During heating or in case of fire poisonous gases are produced.

· 5.3 Advice for firefighters

Promptly isolate the scene by removing all person from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

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- **Protective equipment:** Mouth respiratory protective device.

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SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Mount respiratory protective device.
Wear protective equipment. Keep unprotected persons away.
- **6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Use neutralising agent.
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
- **6.4 Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
- **Information about fire - and explosion protection:** Keep respiratory protective device available.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep container tightly sealed.
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **8.1 Control parameters**
- **Additional information about design of technical facilities:** No further data; see item 7.
- **Ingredients with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists valid during the making were used as basis.
- **8.2 Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Avoid contact with the eyes.
Avoid contact with the eyes and skin.

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- **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

- **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **Eye protection:**



Tightly sealed goggles

- **Body protection:** Protective work clothing

SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

| | |
|-------------------------|-----------------|
| Form: | Liquid |
| Colour: | Amber coloured |
| Odour: | Amine-like |
| Odour threshold: | Not determined. |

- **pH-value:** Not determined.

- **Change in condition**

| | |
|---|---------------|
| Melting point/freezing point: | Undetermined. |
| Initial boiling point and boiling range: | Undetermined. |

- **Flash point:** >101 °C

- **Flammability (solid, gas):** Not applicable.

- **Decomposition temperature:** Not determined.

- **Auto-ignition temperature:** Product is not selfigniting.

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| | |
|--|---|
| · Explosive properties: | Product does not present an explosion hazard. |
| · Explosion limits: | |
| Lower: | Not determined. |
| Upper: | Not determined. |
| · Vapour pressure: | Not determined. |
| · Density at 25 °C: | 0.9805 g/cm ³ |
| · Relative density | Not determined. |
| · Vapour density | Not determined. |
| · Evaporation rate | Not determined. |
| · Solubility in / Miscibility with water: | Not miscible or difficult to mix. |
| · Partition coefficient: n-octanol/water: | Not determined. |
| · Viscosity: | |
| Dynamic at 25 °C: | 1,000 cps |
| Kinematic: | Not determined. |
| · 9.2 Other information | No further relevant information available. |

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity**
Harmful if swallowed.
- **LD/LC50 values relevant for classification:**
Irritating to eyes and skin.

| | | |
|---|------|-----------------------|
| Phenol, 2,4,6-tris[[[3-(dimethylamino)propyl]amino]methyl] | | |
| Oral | LD50 | 300-2,000 mg/kg (rat) |
| 90-72-2 2,4,6-Tris(Dimethylaminomethyl)Phenol | | |
| Oral | LD50 | 2,169 mg/kg (rat) |
| Dermal | LD50 | 1,260 mg/kg (rabbit) |
| 1477-55-0 m-Phenylenebis(methylamine) | | |
| Oral | LD50 | 1,040 mg/kg (rat) |

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| | | |
|--|----------|--------------------|
| Inhalative | LC50/4 h | 2.4 mg/l (rat) |
| 109-55-7 3-Aminopropyldimethylamine | | |
| Oral | LD50 | 1,870 mg/kg (rat) |
| Dermal | LD50 | 490 mg/kg (rabbit) |
| 107-15-3 Ethylenediamine | | |
| Oral | LD50 | 866 mg/kg (rat) |
| Dermal | LD50 | 560 mg/kg (rabbit) |
| Inhalative | LC50/4 h | 14.7 mg/l (rat) |

- **Primary irritant effect:**
- **Skin corrosion/irritation**
Causes severe skin burns and eye damage.
- **Serious eye damage/irritation**
Causes serious eye damage.
- **Respiratory or skin sensitisation**
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
- **Additional toxicological information:**
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

• 12.1 Toxicity

• Aquatic toxicity:

Phenol, 2,4,6-tris[[[3-(dimethylamino)propyl]amino]methyl]

LC50 1.269 mg/l /96 hrs (Fish)

9 mg/l /48 hrs (daphnia)

ER50 1.3 mg/l /48 hrs (Fish)

- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Must not reach sewage water or drainage ditch undiluted or unneutralised.
Danger to drinking water if even small quantities leak into the ground.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

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- **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

SECTION 14: Transport information

- | | | |
|---|---|------------------------------|
| <ul style="list-style-type: none"> • 14.1 UN-Number • ADR, IMDG, IATA | UN2735 | |
| <ul style="list-style-type: none"> • 14.2 UN proper shipping name • ADR • IMDG • IATA | 2735 AMINES, LIQUID, CORROSIVE, N.O.S. (3-Aminopropyldimethylamine, ETHYLENEDIAMINE), ENVIRONMENTALLY HAZARDOUS AMINES, LIQUID, CORROSIVE, N.O.S. (3-Aminopropyldimethylamine, ETHYLENEDIAMINE), MARINE POLLUTANT AMINES, LIQUID, CORROSIVE, N.O.S. (3-Aminopropyldimethylamine, ETHYLENEDIAMINE) | |
| <ul style="list-style-type: none"> • 14.3 Transport hazard class(es) • ADR, IATA | <div style="text-align: center;">  </div> <ul style="list-style-type: none"> • Class • Label | 8 Corrosive substances. 8 |
| <ul style="list-style-type: none"> • IMDG | <div style="text-align: center;">  </div> <ul style="list-style-type: none"> • Class • Label | 8 Corrosive substances. 8 |
| <ul style="list-style-type: none"> • 14.4 Packing group • ADR, IMDG, IATA | II | |
| <ul style="list-style-type: none"> • 14.5 Environmental hazards: • Marine pollutant: | Symbol (fish and tree) | |
| <ul style="list-style-type: none"> • 14.6 Special precautions for user | Warning: Corrosive substances. | |

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| | |
|--|--|
| · Hazard identification number (Kemler code): | 80 |
| · EMS Number: | F-A,S-B |
| · 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code | Not applicable. |
| · Transport/Additional information: | |
| · ADR | |
| · Limited quantities (LQ) | 5L |
| · Excepted quantities (EQ) | Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml |
| · Transport category | 3 |
| · Tunnel restriction code | E |
| · IMDG | |
| · Limited quantities (LQ) | 5L |
| · Excepted quantities (EQ) | Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml |
| · UN "Model Regulation": | UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S. (3 - AMINOPROPYLDIMETHYLAMINE, ETHYLENEDIAMINE), 8, III, ENVIRONMENTALLY HAZARDOUS |

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the CLP regulation.
- **Hazard pictograms**



GHS05 GHS07 GHS08 GHS09

- **Signal word** Danger
- **Hazard-determining components of labelling:**
Phenol, 2,4,6-tris[[[3-(dimethylamino)propyl]amino]methyl]
m-Phenylenebis(methylamine)
Ethylenediamine
3-Aminopropyldimethylamine
- **Hazard statements**
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317 May cause an allergic skin reaction.

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H411 Toxic to aquatic life with long lasting effects.

- **Precautionary statements**

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

P103 Read label before use.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or 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.

P321 Specific treatment (see on this label).

P362+P364 Take off contaminated clothing and wash it before reuse.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Directive 2012/18/EU**

- **Named dangerous substances - ANNEX I** None of the ingredients is listed.

- **Seveso category E2** Hazardous to the Aquatic Environment

- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 200 t

- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 500 t

- **LIST OF SUBSTANCES SUBJECT TO AUTHORISATION (ANNEX XIV)**

| | | |
|----------|-----------------|----------------|
| 107-15-3 | Ethylenediamine | Candidate list |
|----------|-----------------|----------------|

- **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3

- **DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II**

None of the ingredients is listed.

- **National regulations:**

- **Other regulations, limitations and prohibitive regulations**

- **Substances of very high concern (SVHC) according to REACH, Article 57**

| | |
|----------|-----------------|
| 107-15-3 | Ethylenediamine |
|----------|-----------------|

- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Relevant phrases**

H226 Flammable liquid and vapour.

H302 Harmful if swallowed.

H312 Harmful in contact with skin.

H314 Causes severe skin burns and eye damage.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

H332 Harmful if inhaled.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H411 Toxic to aquatic life with long lasting effects.

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H412 Harmful to aquatic life with long lasting effects.

• **Department issuing SDS:** Product safety department

• **Contact:** Mr Eleazar dela Cruz

• **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 3: Flammable liquids – Category 3

Acute Tox. 4: Acute toxicity - oral – Category 4

Skin Corr. 1B: Skin corrosion/irritation – Category 1B

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

Resp. Sens. 1: Respiratory sensitisation – Category 1

Skin Sens. 1: Skin sensitisation – Category 1

Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2

Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

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