

Safety Data Sheet
acc. to OSHA HCS

Printing date 11/28/2017

Version 3

Reviewed on 11/28/2017

1 Identification

- **Product identifier**
- **Product Description:** Epoxy Curing Agent
- **Product code:** Cardolite NC-540
- **Application of the substance / the mixture** Coating
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Cardolite Corporation
11 Deer Park Drive, Suite 124
Monmouth Junction, NJ 08852
USA
Tel: (973) 344-5015
Regulatory@cardolite.com
- **Information department:** Product safety department
- **Emergency telephone number:** 24 Hour Emergency: 800-424-9300 CHEMTREC

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS05 Corrosion

Skin Corr. 1B H314 Causes severe skin burns and eye damage.
Eye Dam. 1 H318 Causes serious eye damage.



GHS07

Acute Tox. 4 H332 Harmful if inhaled.
Skin Sens. 1 H317 May cause an allergic skin reaction.

- **Label elements**
- **GHS label elements**
The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS05 GHS07

- **Signal word** Danger
- **Hazard-determining components of labeling:**
2,2'-Iminodiethylamine
- **Hazard statements**
H332 Harmful if inhaled.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
- **Precautionary statements**
P260 Do not breathe dusts or mists.

(Contd. on page 2)

US

Printing date 11/28/2017

Version 3

Reviewed on 11/28/2017

Product Description: Epoxy Curing Agent

(Contd. of page 1)

P303+P361+P353 If on skin (or hair): 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.

P405 Store locked up.

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

Classification system:
NFPA ratings (scale 0 - 4)


Health = 2

Fire = 1

Reactivity = 0

HMIS-ratings (scale 0 - 4)


Health = 2

Fire = 1

Reactivity = 0

Other hazards
Results of PBT and vPvB assessment




PBT: Not applicable.

vPvB: Not applicable.

3 Composition/information on ingredients
Chemical characterization: Mixtures

Description: Mixture of the substances listed below with nonhazardous additions.

Dangerous Components:

111-40-0	2,2'-Iminodiethylamine	6.0 - 9.0%
 Acute Tox. 2, H330;  Skin Corr. 1B, H314;  Acute Tox. 4, H302; Acute Tox. 4, H312; Skin Sens. 1, H317; STOT SE 3, H335		

4 First-aid measures
Description of first aid measures
General information:

Immediately remove any clothing soiled by the product.

Remove breathing apparatus only after contaminated clothing have been completely removed.

In case of irregular breathing or respiratory arrest provide artificial respiration.

After inhalation:

Supply fresh air or oxygen; call for 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 copious amounts of water and provide fresh air. Immediately call a doctor.

Information for doctor:
Most important symptoms and effects, both acute and delayed

No further relevant information available.

(Contd. on page 3)

US

Safety Data Sheet
acc. to OSHA HCS

Printing date 11/28/2017

Version 3

Reviewed on 11/28/2017

Product Description: Epoxy Curing Agent

(Contd. of page 2)

- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **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.
- **Protective equipment:** Mouth respiratory protective device.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**
Do not allow product to reach sewage system or any water course.
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Use neutralizing agent.
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
- **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.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
Prevent formation of aerosols.
- **Information about protection against explosions and fires:**
Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
Keep container tightly closed and in a well ventilated place.
- **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 receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

US

(Contd. on page 4)

Product Description: Epoxy Curing Agent

(Contd. of page 3)

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**
- **Components 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 that were valid during the creation were used as basis.
- **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.
Store protective clothing separately.
Avoid contact with the eyes and skin.
- **Breathing equipment:**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
- **Protection of hands:**
Neoprene gloves
Rubber gloves



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. 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

US

(Contd. on page 5)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/28/2017

Version 3

Reviewed on 11/28/2017

Product Description: Epoxy Curing Agent

(Contd. of page 4)

9 Physical and chemical properties

• Information on basic physical and chemical properties • General Information • Appearance: Form: Liquid Color: Red-brown • Odor: Amine-like • Odor threshold: Not determined.	
• pH-value:	Not determined.
• Change in condition Melting point/Melting range: Undetermined. Boiling point/Boiling range: 207 °C (404.6 °F)	
• Flash point:	97 °C (206.6 °F)
• Flammability (solid, gaseous):	Not applicable.
• Ignition temperature:	
Decomposition temperature:	Not determined.
• Auto igniting:	Product is not selfigniting.
• Danger of explosion:	Product does not present an explosion hazard.
• Explosion limits: Lower: Not determined. Upper: Not determined.	
• Vapor pressure:	Not determined.
• Density at 25 °C (77 °F):	0.9808 g/cm ³ (8.18478 lbs/gal)
• Relative density	Not determined.
• Vapor 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 (77 °F): 2000 cps Kinematic: Not determined.	
• Other information	No further relevant information available.

10 Stability and reactivity

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

(Contd. on page 6)

Printing date 11/28/2017

Version 3

Reviewed on 11/28/2017

Product Description: Epoxy Curing Agent

(Contd. of page 5)

- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **LD/LC50 values that are relevant for classification:**
Irritating to eyes and skin.

111-40-0 2,2'-Iminodiethylamine

Oral	LD50	1080 mg/kg (rat)
Dermal	LD50	1090 mg/kg (rabbit)
Inhalative	LC50/4 h	0.3 mg/l (rat)

- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritating effect.
- **Sensitization:** Sensitization possible through skin contact.
- **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Irritant
Very toxic

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

- **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Water hazard class 2 (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

(Contd. on page 7)

US

Safety Data Sheet acc. to OSHA HCS

Printing date 11/28/2017

Version 3

Reviewed on 11/28/2017

Product Description: Epoxy Curing Agent



(Contd. of page 6)

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

13 Disposal considerations

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

14 Transport information

• UN-Number	UN2735
• DOT, ADR, IMDG, IATA	
• UN proper shipping name	POLYAMINES, LIQUID, CORROSIVE, N.O.S. (DIETHYLENETRIAMINE)
• DOT	2735 POLYAMINES, LIQUID, CORROSIVE, N.O.S. (DIETHYLENETRIAMINE)
• ADR	AMINES, LIQUID, CORROSIVE, N.O.S. (DIETHYLENETRIAMINE)
• IMDG, IATA	
• Transport hazard class(es)	
• DOT	
	
• Class	8 Corrosive substances
• Label	8
• ADR, IMDG, IATA	
	
• Class	8 Corrosive substances
• Label	8
• Packing group	II
• DOT, ADR, IMDG, IATA	
• Environmental hazards:	No
• Marine pollutant:	No
• Special precautions for user	Warning: Corrosive substances
• Danger code (Kemler):	80
• EMS Number:	F-A,S-B
• Segregation groups	Alkalis

(Contd. on page 8)

Safety Data Sheet acc. to OSHA HCS

Printing date 11/28/2017

Version 3

Reviewed on 11/28/2017

Product Description: Epoxy Curing Agent

(Contd. of page 7)

• Stowage Category	A
• Segregation Code	SG35 Stow "separated from" acids.
• Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
• Transport/Additional information:	
• ADR	
• Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
• IMDG	
• Limited quantities (LQ)	1L
• Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
• UN "Model Regulation":	UN2735, POLYAMINES, LIQUID, CORROSIVE, N.O.S. (DIETHYLENETRIAMINE), 8, II

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Sara**

• **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

• **Section 313 (Specific toxic chemical listings):**

None of the ingredients is listed.

• **TSCA (Toxic Substances Control Act):**

All ingredients are listed.

• **Proposition 65**

• **Chemicals known to cause cancer:**

None of the ingredients is listed.

• **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

• **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

• **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

• **Carcinogenic categories**

• **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

• **TLV (Threshold Limit Value established by ACGIH)**

None of the ingredients is listed.

(Contd. on page 9)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/28/2017

Version 3

Reviewed on 11/28/2017

Product Description: Epoxy Curing Agent

(Contd. of page 8)

• NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

• GHS label elements

The product is classified and labeled according to the Globally Harmonized System (GHS).

• Hazard pictograms



GHS05 GHS07

• Signal word Danger

• Hazard-determining components of labeling:

2,2'-Iminodiethylamine

• Hazard statements

H332 Harmful if inhaled.

H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.

• Precautionary statements

P260 Do not breathe dusts or mists.

P303+P361+P353 If on skin (or hair): 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.

P405 Store locked up.

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

• Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

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.

• Department issuing SDS: Product safety department

• Contact: Mr Eleazar dela Cruz

• Date of preparation / last revision 11/28/2017 / 2

• 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

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

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)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

(Contd. on page 10)

US

Safety Data Sheet
acc. to OSHA HCS

Printing date 11/28/2017

Version 3

Reviewed on 11/28/2017

Product Description: Epoxy Curing Agent

(Contd. of page 9)

TVL: Treshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Acute Tox. 4: Acute toxicity – Category 4
Acute Tox. 2: Acute toxicity – Category 2
Skin Corr. 1B: Skin corrosion/irritation – Category 1B
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
Skin Sens. 1: Skin sensitisation – Category 1
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

US