

Printing date 03/05/2018

Version 2

Reviewed on 03/05/2018

1 Identification

- **Product identifier**
- **Product Description:** Epoxy Curing Agent
- **Product code:** Cardolite NX-5444
- **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**



GHS02 Flame

Flam. Liq. 2 H225 Highly flammable liquid and vapor.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2A H319 Causes serious eye irritation.

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



GHS02 GHS07

- **Signal word** Danger
- **Hazard statements**
 H225 Highly flammable liquid and vapor.
 H315 Causes skin irritation.
 H319 Causes serious eye irritation.
- **Precautionary statements**
 P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
 P241 Use explosion-proof electrical/ventilating/lighting/equipment.
 P280 Wear protective gloves/protective clothing/eye protection/face protection.
 P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

(Contd. on page 2)

US

Printing date 03/05/2018

Version 2

Reviewed on 03/05/2018

Product Description: Epoxy Curing Agent

(Contd. of page 1)

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

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

 • **Classification system:**

 • **NFPA ratings (scale 0 - 4)**


Health = 2

Fire = 3

Reactivity = 0

 • **HMIS-ratings (scale 0 - 4)**


Health = 2

Fire = 3

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:**

67-63-0	Propan-2-ol	8.0 - 12.0%
	⚠ Flam. Liq. 2, H225; ⚠ Eye Irrit. 2A, H319; STOT SE 3, H336	
1330-20-7	Xylenes	4.0 - 8.0%
	⚠ Flam. Liq. 3, H226; ⚠ Acute Tox. 4, H312; Acute Tox. 4, H332; Skin Irrit. 2, H315	
108-46-3	Resorcinol	2.0 - 5.0%
	⚠ Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2A, H319	

4 First-aid measures

 • **Description of first aid measures**

 • **General information:** Immediately remove any clothing soiled by the product.

 • **After inhalation:** 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. If symptoms persist, consult a doctor.

 • **After swallowing:** If symptoms persist consult doctor.

 • **Information for doctor:**

 • **Most important symptoms and effects, both acute and delayed**

No further relevant information available.

 • **Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

US

(Contd. on page 3)

Printing date 03/05/2018

Version 2

Reviewed on 03/05/2018

Product Description: Epoxy Curing Agent

(Contd. of page 2)

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.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **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:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:** 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).
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.
- **Protective Action Criteria for Chemicals**

 · **PAC-1:**

67-63-0	Propan-2-ol	400 ppm
1330-20-7	Xylenes	130 ppm
108-46-3	Resorcinol	20 ppm

 · **PAC-2:**

67-63-0	Propan-2-ol	2000* ppm
1330-20-7	Xylenes	920* ppm
108-46-3	Resorcinol	28 ppm

 · **PAC-3:**

67-63-0	Propan-2-ol	12000** ppm
1330-20-7	Xylenes	2500* ppm
108-46-3	Resorcinol	170 ppm

7 Handling and storage

- **Handling:**
- **Precautions for safe handling** No special precautions are necessary if used correctly.
- **Information about protection against explosions and fires:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.

(Contd. on page 4)

US

Printing date 03/05/2018

Version 2

Reviewed on 03/05/2018

Product Description: Epoxy Curing Agent

(Contd. of page 3)

- **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:** Store in a cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
Keep receptacle tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
- **Specific end use(s)** No further relevant information available.

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:
67-63-0 Propan-2-ol

PEL	Long-term value: 980 mg/m ³ , 400 ppm
REL	Short-term value: 1225 mg/m ³ , 500 ppm Long-term value: 980 mg/m ³ , 400 ppm
TLV	Short-term value: 984 mg/m ³ , 400 ppm Long-term value: 492 mg/m ³ , 200 ppm BEI

1330-20-7 Xylenes

PEL	Long-term value: 435 mg/m ³ , 100 ppm
REL	Short-term value: 655 mg/m ³ , 150 ppm Long-term value: 435 mg/m ³ , 100 ppm
TLV	Short-term value: 651 mg/m ³ , 150 ppm Long-term value: 434 mg/m ³ , 100 ppm BEI

108-46-3 Resorcinol

REL	Short-term value: 90 mg/m ³ , 20 ppm Long-term value: 45 mg/m ³ , 10 ppm
TLV	Short-term value: 90 mg/m ³ , 20 ppm Long-term value: 45 mg/m ³ , 10 ppm

Ingredients with biological limit values:
67-63-0 Propan-2-ol

BEI	40 mg/L Medium: urine Time: end of shift at end of workweek Parameter: Acetone (background, nonspecific)
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1330-20-7 Xylenes

BEI	1.5 g/g creatinine Medium: urine Time: end of shift Parameter: Methylhippuric acids
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- **Additional information:** The lists that were valid during the creation were used as basis.

(Contd. on page 5)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/05/2018

Version 2

Reviewed on 03/05/2018

Product Description: Epoxy Curing Agent

(Contd. of page 4)

Exposure controls

Use local exhaust ventilation. Suitable respiratory equipment should be used in cases of insufficient ventilation.

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 and skin.

Breathing equipment: Not required.

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

9 Physical and chemical properties

Information on basic physical and chemical properties

General Information

Appearance:

Form:	Liquid
Color:	Amber colored
Odor:	Amine-like
Odor threshold:	Not determined.

pH-value at 25 °C (77 °F): 10.5

Change in condition

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	> 65 °C (>149 °F)

(Contd. on page 6)

US

Safety Data Sheet acc. to OSHA HCS

Printing date 03/05/2018

Version 2

Reviewed on 03/05/2018

Product Description: Epoxy Curing Agent

(Contd. of page 5)

· Flash point:	13 °C (55.4 °F)
· Flammability (solid, gaseous):	Not applicable.
· Decomposition temperature:	Not determined.
· Auto igniting:	Product is not selfigniting.
· Danger of explosion:	Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
· Explosion limits: Lower: Upper:	Not determined. Not determined.
· Vapor pressure:	Not determined.
· Density at 25 °C (77 °F):	0.98 g/cm ³ (8.1781 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): Kinematic:	4300 cps Not determined.
· Solvent content:	
Solids content:	~80.0 %
· Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability** Product is stable.
- **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.
- **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.

(Contd. on page 7)

US

Printing date 03/05/2018

Version 2

Reviewed on 03/05/2018

Product Description: Epoxy Curing Agent

(Contd. of page 6)

67-63-0 Propan-2-ol

Oral	LD50	5,045 mg/kg (rat)
Dermal	LD50	12,800 mg/kg (rabbit)
Inhalative	LC50/4 h	30 mg/l (rat)

1330-20-7 Xylenes

Oral	LD50	4,300 mg/kg (rat)
Dermal	LD50	2,000 mg/kg (rabbit)

108-46-3 Resorcinol

Oral	LD50	301 mg/kg (rat)
Dermal	LD50	3,360 mg/kg (rabbit)

• Primary irritant effect:

• **on the skin:** Irritant to skin and mucous membranes.

• **on the eye:** Irritating effect.

• **Sensitization:** No sensitizing effects known.

• Additional toxicological information:

The product shows the following dangers according to internally approved calculation methods for preparations:

Irritant

• Carcinogenic categories
• IARC (International Agency for Research on Cancer)

67-63-0	Propan-2-ol	3
1330-20-7	Xylenes	3
108-46-3	Resorcinol	3

• 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 8)

US

Safety Data Sheet acc. to OSHA HCS

Printing date 03/05/2018

Version 2

Reviewed on 03/05/2018

Product Description: Epoxy Curing Agent




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

(Contd. of page 7)

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 | UN1866 |
| • DOT, ADR, IMDG, IATA | |
| • UN proper shipping name | Resin solution |
| • DOT | 1866 Resin solution |
| • ADR | RESIN SOLUTION |
| • IMDG, IATA | |
| • Transport hazard class(es) | |
| • DOT | |
|  | |
| • Class | 3 Flammable liquids |
| • Label | 3 |
| • ADR | |
|  | |
| • Class | 3 Flammable liquids |
| • Label | Miscellaneous dangerous substances and articles |
| | 3 |
| • IMDG, IATA | |
|  | |
| • Class | 3 Flammable liquids |
| • Label | 3 |
| • Packing group | |
| • DOT, ADR, IMDG, IATA | II |

(Contd. on page 9)

Safety Data Sheet acc. to OSHA HCS

Printing date 03/05/2018

Version 2

Reviewed on 03/05/2018

Product Description: Epoxy Curing Agent

(Contd. of page 8)

- | | |
|--|---|
| <ul style="list-style-type: none"> • Environmental hazards: • Marine pollutant: | No |
| <ul style="list-style-type: none"> • Special precautions for user • Danger code (Kemler): • EMS Number: • Stowage Category | Warning: Flammable liquids
33
F-E, <u>S-E</u>
B |
| <ul style="list-style-type: none"> • Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable. |
| <ul style="list-style-type: none"> • Transport/Additional information: • DOT • Quantity limitations | On passenger aircraft/rail: 5 L
On cargo aircraft only: 60 L |
| <ul style="list-style-type: none"> • ADR • Excepted quantities (EQ) | Code: E2
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 500 ml |
| <ul style="list-style-type: none"> • IMDG • Limited quantities (LQ) • Excepted quantities (EQ) | 5L
Code: E2
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 500 ml |
| <ul style="list-style-type: none"> • UN "Model Regulation": | UN 1866 RESIN SOLUTION, 3, 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):

67-63-0 Propan-2-ol

1330-20-7 Xylenes

• TSCA (Toxic Substances Control Act):

Substance is listed and covered by Significant New Use Rule at U.S. 40 CFR 721.10058

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.

(Contd. on page 10)

US

Safety Data Sheet acc. to OSHA HCS

Printing date 03/05/2018

Version 2

Reviewed on 03/05/2018

Product Description: Epoxy Curing Agent

(Contd. of page 9)

• Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

• Carcinogenic categories

• EPA (Environmental Protection Agency)

1330-20-7 Xylenes

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• TLV (Threshold Limit Value established by ACGIH)

67-63-0 Propan-2-ol

A4

1330-20-7 Xylenes

A4

108-46-3 Resorcinol

A4

• 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



GHS02 GHS07

• Signal word Danger

• Hazard statements

H225 Highly flammable liquid and vapor.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

• Precautionary statements

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P241 Use explosion-proof electrical/ventilating/lighting/equipment.

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

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.

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 03/05/2018 / 1

• 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

(Contd. on page 11)

US

Safety Data Sheet
acc. to OSHA HCS

Printing date 03/05/2018

Version 2

Reviewed on 03/05/2018

Product Description: Epoxy Curing Agent

(Contd. of page 10)

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)
VOC: Volatile Organic Compounds (USA, EU)
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
TVL: Treshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
BEL: Biological Exposure Limit
Flam. Liq. 2: Flammable liquids – Category 2
Flam. Liq. 3: Flammable liquids – Category 3
Acute Tox. 4: Acute toxicity – Category 4
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

US