

1 Identification

- **Product identifier**
- **Product Description: Epoxy Curing Agent**
- **Product code:** Cardolite NC-565
- **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. 3 H226 Flammable liquid and vapor.



GHS05 Corrosion

Eye Dam. 1 H318 Causes serious eye damage.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

- **Label elements**

- **GHS label elements**

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

- **Hazard pictograms**



GHS02 GHS05

- **Signal word** Danger

- **Hazard-determining components of labeling:**

Butanol

- **Hazard statements**

H226 Flammable liquid and vapor.

H315 Causes skin irritation.

H318 Causes serious eye damage.

(Contd. on page 2)

Printing date 05/25/2018

Version 1

Reviewed on 05/25/2018

Product Description: Epoxy Curing Agent

(Contd. of page 1)

Precautionary statements

- 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.
- P321 Specific treatment (see on this label).
- P362+P364 Take off contaminated clothing and wash it before reuse.
- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Classification system:
NFPA ratings (scale 0 - 4)

 Health = 3
 Fire = 3
 Reactivity = 0

HMIS-ratings (scale 0 - 4)

 Health = *3
 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:

| | | |
|-----------|-------------|--------------|
| 1330-20-7 | Xylenes | 23.0 - 28.0% |
| 71-36-3 | Butanol | 6.5 - 9.5% |

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. Then 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.

(Contd. on page 3)

Printing date 05/25/2018

Version 1

Reviewed on 05/25/2018

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.
- **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).
 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.
- **Protective Action Criteria for Chemicals**

 · **PAC-1:**

| | | |
|-----------|---------|---------|
| 1330-20-7 | Xylenes | 130 ppm |
| 71-36-3 | Butanol | 60 ppm |

 · **PAC-2:**

| | | |
|-----------|---------|----------|
| 1330-20-7 | Xylenes | 920* ppm |
| 71-36-3 | Butanol | 800 ppm |

 · **PAC-3:**

| | | |
|-----------|---------|------------|
| 1330-20-7 | Xylenes | 2500* ppm |
| 71-36-3 | Butanol | 8000** 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)

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:** 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.

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:**

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 |

71-36-3 Butanol

| | |
|-----|---|
| PEL | Long-term value: 300 mg/m ³ , 100 ppm |
| REL | Ceiling limit value: 150 mg/m ³ , 50 ppm Skin |
| TLV | Long-term value: 61 mg/m ³ , 20 ppm |

• **Ingredients with biological limit values:**

1330-20-7 Xylenes

| | |
|-----|--|
| BEI | 1.5 g/g creatinine Medium: urine Time: end of shift Parameter: Methylhippuric acids |
|-----|--|

- **Additional information:** The lists that were valid during the creation were used as basis.
- **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 skin.
Avoid contact with the eyes and skin.
- **Breathing equipment:** Not required.

(Contd. on page 5)

Product Description: Epoxy Curing Agent

(Contd. of page 4)

- **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: | Yellow-brown |
| 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: | Undetermined. |

- **Flash point:** 32 °C (89.6 °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:** Not determined.

(Contd. on page 6)

Printing date 05/25/2018

Version 1

Reviewed on 05/25/2018

Product Description: Epoxy Curing Agent

(Contd. of page 5)

| | |
|---|--|
| Upper: | Not determined. |
| · Vapor pressure: | Not determined. |
| · Density at 25 °C (77 °F): | 0.9646 g/cm ³ (8.04959 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): | 300 - 2300 cps |
| Kinematic: | Not determined. |
| · Solvent content: | |
| Solids content: | 65.0 % |
| · 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.

1330-20-7 Xylenes

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

71-36-3 Butanol

| | | |
|------------|----------|----------------------|
| Oral | LD50 | 790 mg/kg (rat) |
| Dermal | LD50 | 3,400 mg/kg (rabbit) |
| Inhalative | LC50/4 h | 8,000 mg/l (rat) |

- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Strong irritant with the danger of severe eye injury.
- **Sensitization:** No sensitizing effects known.

(Contd. on page 7)

Printing date 05/25/2018

Version 1

Reviewed on 05/25/2018

Product Description: Epoxy Curing Agent

(Contd. of page 6)

 • **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)**

| | | |
|-----------|---------|---|
| 1330-20-7 | Xylenes | 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.
 Must not reach bodies of water or drainage ditch undiluted or unneutralized.
 Danger to drinking water if even small quantities leak into the ground.

 • **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **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**

| | |
|-------------------------------|--------|
| • DOT, ADR, IMDG, IATA | UN1866 |
|-------------------------------|--------|

 • **UN proper shipping name**

| | |
|--------------|----------------|
| • DOT | Resin solution |
|--------------|----------------|

(Contd. on page 8)

Safety Data Sheet
 acc. to OSHA HCS

Printing date 05/25/2018

Version 1

Reviewed on 05/25/2018

Product Description: Epoxy Curing Agent

(Contd. of page 7)

· **ADR** 1866 Resin solution
 · **IMDG, IATA** RESIN SOLUTION

· **Transport hazard class(es)**· **DOT**

· **Class** 3 Flammable liquids
 · **Label** 3

· **ADR**

· **Class** 3 Flammable liquids
 Miscellaneous dangerous substances and articles
 · **Label** 3

· **IMDG, IATA**

· **Class** 3 Flammable liquids
 · **Label** 3

· **Packing group**· **DOT, ADR, IMDG, IATA** III· **Environmental hazards:**· **Marine pollutant:** No· **Special precautions for user** Warning: Flammable liquids· **Danger code (Kemler):** 33· **EMS Number:** F-E, S-E· **Stowage Category** A

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

· **Transport/Additional information:**· **DOT**

· **Quantity limitations** On passenger aircraft/rail: 60 L
 On cargo aircraft only: 220 L

· **ADR**

· **Excepted quantities (EQ)** Code: E1
 Maximum net quantity per inner packaging: 30 ml
 Maximum net quantity per outer packaging: 1000 ml

(Contd. on page 9)

US

Safety Data Sheet
 acc. to OSHA HCS

Printing date 05/25/2018

Version 1

Reviewed on 05/25/2018

Product Description: Epoxy Curing Agent

(Contd. of page 8)

- | | |
|--|--|
| <ul style="list-style-type: none"> • IMDG • Limited quantities (LQ) • Excepted quantities (EQ) | 5L Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml |
| <ul style="list-style-type: none"> • UN "Model Regulation": | UN 1866 RESIN SOLUTION, 3, III |

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):**

1330-20-7 Xylenes

71-36-3 Butanol

- **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)**

1330-20-7 Xylenes

I

71-36-3 Butanol

D

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

1330-20-7 Xylenes

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 GHS05

(Contd. on page 10)

US

Product Description: Epoxy Curing Agent

(Contd. of page 9)

- **Signal word** Danger
- **Hazard-determining components of labeling:**
Butanol
- **Hazard statements**
H226 Flammable liquid and vapor.
H315 Causes skin irritation.
H318 Causes serious eye damage.
- **Precautionary statements**
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.
P321 Specific treatment (see on this label).
P362+P364 Take off contaminated clothing and wash it before reuse.
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** 05/25/2018 / -
- **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)
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. 3: Flammable liquids – Category 3
Acute Tox. 4: Acute toxicity – Category 4
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3