

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

1.1. Product identifier

Product name : Epoxy Curing Agent ECA 100NC
 Product form : Mixture
 Product code : ECA 100NC

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Industrial use as a monomer in the manufacture of resins.
 Industrial use as an intermediate in chemical synthesis or process.
 Industrial use as a hardener for epoxy resins.
 Manufacture of substance (liquid and flakes).

1.3. Details of the supplier of the safety data sheet

Dixie Chemical Company, Inc.
 10601 Bay Area Blvd
 Pasadena TX 77507
 Phone: 281-474-3271
 Email: msds@dixiechemical.com

1.4. Emergency telephone number

Emergency number : CHEMTREC® (800) 424-9300 Domestic, (703) 527-3887 International

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Eye Dam. 1 H318
 Resp. Sens. 1 H334
 Skin Sens. 1 H317

2.2. Label elements

GHS-US labelling

Hazard pictograms (GHS-US) :



GHS05

GHS08

Signal word (GHS-US) :

Danger

Hazard statements (GHS-US) :

H317 - May cause an allergic skin reaction
 H318 - Causes serious eye damage
 H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled

Precautionary statements (GHS-US) :

P261 - Avoid breathing vapours, dust
 P272 - Contaminated work clothing must not be allowed out of the workplace
 P280 - Wear eye protection, face protection, protective clothing, protective gloves
 P284 - [In case of inadequate ventilation] wear respiratory protection
 P302+P352 - If on skin: Wash with plenty of soap and water
 P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing
 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 doctor, a poison center
 P321 - Specific treatment (see first aid instructions on this label)
 P333+P313 - If skin irritation or rash occurs: Get medical advice/attention
 P342+P311 - If experiencing respiratory symptoms: Call a doctor, a poison center
 P362+P364 - Take off contaminated clothing and wash it before reuse
 P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS-US)

No data available

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SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Name	Product identifier	%
1,3-Isobenzofurandione, tetrahydro-5-methyl-	(CAS No) 34090-76-1	5 - 15
1,3-Isobenzofurandione, hexahydromethyl-	(CAS No) 25550-51-0	75 - 95
Hexahydrophthalic anhydride	(CAS No) 85-42-7	10 - 20
<i>Chemical components disclosed above are those requiring disclosure in accordance with the OSHA Hazard Communication Standard 2012 (29 CFR 1910.1200)</i>		

SECTION 4: First aid measures

4.1. Description of first aid measures

- First-aid measures general : If exposed or concerned, get medical attention/advice. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before re-use. Never give anything to an unconscious person.
- First-aid measures after inhalation : IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Get medical attention. If breathing is difficult, supply oxygen. If breathing has stopped, give artificial respiration.
- First-aid measures after skin contact : IF ON SKIN (or clothing): Remove affected clothing and wash all exposed skin with water for at least 15 minutes. Get medical attention immediately.
- First-aid measures after eye contact : IF IN EYES: Immediately flush with plenty of water for at least 15 minutes. Remove contact lenses if present and easy to do so. Get medical attention immediately. Continue rinsing.
- First-aid measures after ingestion : IF SWALLOWED: rinse mouth thoroughly. Do not induce vomiting without advice from poison control center or medical professional. Get medical attention immediately.

4.2. Most important symptoms and effects, both acute and delayed

- Symptoms/injuries after inhalation : May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- Symptoms/injuries after skin contact : May cause an allergic skin reaction.
- Symptoms/injuries after eye contact : Causes serious eye damage.
- Symptoms/injuries after ingestion : May cause gastrointestinal irritation.

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

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

- Suitable extinguishing media : Water spray. Carbon dioxide. Alcohol-resistant foam.
- Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

- Fire hazard : Must be preheated before ignition can occur.
- Explosion hazard : Product is not explosive.
- Reactivity : This material reacts with water or steam to form phthalic acids. This reaction is slightly exothermic.

5.3. Advice for firefighters

- Firefighting instructions : Use cold water spray to cool fire-exposed containers to minimize risk of rupture. Do not dispose of fire-fighting water in the environment. Dispose of in accordance with relevant local regulations. Prevent human exposure to fire, fumes, smoke and products of combustion.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- General measures : Evacuate area. Keep upwind. Ventilate area. Spill should be handled by trained clean-up crews properly equipped with respiratory equipment and full chemical protective gear (see Section 8).

6.1.1. For non-emergency personnel

- Protective equipment : Wear Protective equipment as described in Section 8.
- Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

- Protective equipment : For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Notify authorities if product enters sewers or public waters. Prevent entry to sewers and public waters. Avoid release to the environment.

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6.3. Methods and material for containment and cleaning up

- For containment : Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.
- Methods for cleaning up : Eliminate ignition sources. Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Place in a suitable container for disposal in accordance with the waste regulations (see Section 13).

6.4. Reference to other sections

See Sections 8 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Wear personal protective equipment. Do not handle until all safety precautions have been read and understood. Ensure good ventilation of the work station. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Store in a well-ventilated place. Keep cool. Protect from sunlight. Keep away from ignition sources. Store away from incompatible materials. Protect from moisture. Store away from food.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Hexahydrophthalic anhydride (85-42-7)	
ACGIH Ceiling (mg/m ³)	0.005 (inhalable fraction and vapor)
Remark (ACGIH)	Threshold Limit Values (TLV Basis) Critical Effects: sensitization (listed under Hexahydrophthalic anhydride, all isomers)
Remark (OSHA)	OELs not established

1,3-Isobenzofurandione, tetrahydro-5-methyl- (34090-76-1)	
Remark (ACGIH)	OELs not established
Remark (OSHA)	OELs not established

1,2,3,6-Tetrahydrophthalic anhydride (85-43-8)	
Remark (ACGIH)	OELs not established
Remark (OSHA)	OELs not established

1,3-Isobenzofurandione, hexahydromethyl- (25550-51-0)	
Remark (ACGIH)	OELs not established
Remark (OSHA)	OELs not established

8.2. Exposure controls

- Appropriate engineering controls : Provide adequate general and local exhaust ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Use explosion-proof equipment with flammable materials. Ensure adequate ventilation, especially in confined areas.
- Personal protective equipment : Gloves. Wear chemical goggles and face shield in combination. Protective clothing. Insufficient ventilation: wear respiratory protection.



- Hand protection : Use gloves chemically resistant to this material when prolonged or repeated contact could occur. Gloves should be classified under Standard EN 374 or ASTM F1296. Suggested glove materials are: Neoprene, Nitrile/butadiene rubber, Polyethylene, Ethyl vinyl alcohol laminate, PVC or vinyl. Be aware that the chemical may penetrate the gloves. Frequent changes are advisable. Suitable gloves for this specific application can be recommended by the glove supplier.
- Eye protection : Wear eye protection, including chemical splash goggles and a face shield when possibility exists for eye contact due to spraying liquid or airborne particles.
- Skin and body protection : Wear long sleeves, and chemically impervious PPE/coveralls to minimize bodily exposure.
- Respiratory protection : Use NIOSH-approved dust/particulate respirator. Where vapor, mist, or dust exceed PELs or other applicable OELs, use NIOSH-approved respiratory protective equipment.

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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Color	: Clear to yellow.
Odor	: Faint characteristic to Characteristic.
Odor Threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: < 1
Melting point	: No data available
Freezing point	: -30 C (-22 F) ASTM D 2386
Boiling point	: 266 - 284 °C (510.8 - 543.2 °F)
Flash point	: 154 °C (310 °F), PMCC, ASTM D 93
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: 0.002 - 0.003 @ 25 °C (calculated)
Relative vapour density at 20 °C	: > 1 (AIR = 1)
Relative density	: 1.166 - 1.22 @ 25 °C (WATER = 1)
Solubility	: Reacts slowly with water.
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: 40 – 100 cPs @ 25 °C
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

This material reacts with water or steam to form phthalic acids. This reaction is slightly exothermic.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Hazardous polymerization does not occur. Heating above 220 °C (428 °F) may result in product decomposition.

10.4. Conditions to avoid

Moisture. High temperatures, incompatible materials.

10.5. Incompatible materials

Water. Alcohols. Acids. Bases. Oxidizing agents.

10.6. Hazardous decomposition products

Carbon monoxide (CO), carbon dioxide (CO₂).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Hexahydrophthalic anhydride (85-42-7)

LD50 oral rat	4040 mg/kg
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1,2,3,6-Tetrahydrophthalic anhydride (85-43-8)

LD50 oral rat	5410 mg/kg
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Skin corrosion/irritation	: Not classified
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.
Germ cell mutagenicity	: Not classified

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Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: Not classified
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: Not classified
Symptoms/injuries after inhalation	: May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Symptoms/injuries after skin contact	: May cause an allergic skin reaction.
Symptoms/injuries after eye contact	: Causes serious eye damage.
Symptoms/injuries after ingestion	: May cause gastrointestinal irritation.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : No information available.

12.2. Persistence and degradability

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Persistence and degradability	No data available.
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12.3. Bioaccumulative potential

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Bioaccumulative potential	No information available.
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12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Do not discharge to public wastewater systems without permit of pollution control authorities. No discharge to surface waters is allowed without an NPDES permit.

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Do not allow the product to be released into the environment.

SECTION 14: Transport information

In accordance with DOT

Not hazardous for transport

Additional information

Other information : No supplementary information available.

Transport by sea

No additional information available

Air transport

No additional information available

SECTION 15: Regulatory information

15.1. US Federal regulations

Epoxy Curing Agent ECA 100NC

All chemical substances in this product are listed in the EPA (Environment Protection Agency) TSCA (Toxic Substances Control Act) Inventory or are exempt	
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SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard
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15.2. International regulations

All chemical substances in this product are listed on the Canadian Domestic Substances List (DSL) or Non-Domestic Substances List (NDSL) or are exempt

All chemical substances in this product are listed on the Chinese Chemical Inventory of Existing Chemical Substances (IECSC) or are exempt

All chemical substances in this product are listed on the European EINECS Inventory or the ELINCS list or are exempt

All chemical substances in this product are listed on the Japanese Existing and New Chemical Substances Inventory (ENCS) or are exempt

All chemical substances in this product are listed on the Korean Existing Chemicals Inventory (KECI) or are exempt

All chemical substances in this product are listed on the Philippines Inventory of Chemicals and Chemical Substances (PICCS) or are exempt

All chemical substances in this product are listed on the Taiwan Chemical Substance Inventory (TSCI) or are exempt

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One or more of the chemical substances in this product is not listed on the Australian Inventory of Chemical Substances (AICS)
One or more of the chemical substances in this product is not listed on the New Zealand Inventory of Chemicals (NZIoC)

15.3. US State regulations

California Proposition 65

This product does not contain any substances known to the state of California to cause cancer and/or reproductive harm

Hexahydrophthalic anhydride (85-42-7)

U.S. - New Jersey - Right to Know Hazardous Substance List

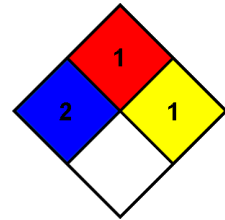
1,2,3,6-Tetrahydrophthalic anhydride (85-43-8)

U.S. - New Jersey - Right to Know Hazardous Substance List

SECTION 16: Other information

Indication of changes : Revision 1.0: New SDS Created.
: 08/26/2015
Other information : Author: ANF.

NFPA health hazard : 2 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention is given.
NFPA fire hazard : 1 - Must be preheated before ignition can occur.
NFPA reactivity : 1 - Normally stable, but can become unstable at elevated temperatures and pressures or may react with water with some release of energy, but not violently.



HMIS III Rating

Health : 2
Flammability : 1
Physical : 1
Personal Protection :

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product