

Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

Printing date 01/21/2015

Reviewed on 01/21/2015

* **1 Identification**

- **Product identifier**
- **Trade name: EP-FLEX Component B**
- **Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
E-Chem, LLC
4102 El Rey Rd. SE
Albuquerque, NM 87105
Phone: 505.217.2121
Fax: 505.217.3721
Email: mail@e-chem.net
Web: www.e-chem.net
- **Emergency telephone number:**
Chemtrec at 1-800-424-9300 24 Hours
Outside the U.S., call Chemtrec collect at 703-527-3887

* **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

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

H227 Combustible liquid.

- **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-piperazin-1-ylethylamine
cyclohex-1,2-ylenediamine
- **Hazard statements**
Combustible liquid.
Causes severe skin burns and eye damage.
May cause an allergic skin reaction.

(Contd. on page 2)

Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

Printing date 01/21/2015

Reviewed on 01/21/2015

Trade name: EP-FLEX Component B

(Contd. of page 1)

Precautionary statements

Keep away from flames and hot surfaces. – No smoking.
 Do not breathe dusts or mists.
 Wear protective gloves / eye protection / face protection.
 Wear protective gloves.
 Wear eye protection / face protection.
 Wash thoroughly after handling.
 Contaminated work clothing must not be allowed out of the workplace.
 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
 Continue rinsing.
 Immediately call a poison center/doctor.
 Specific treatment (see on this label).
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
 Wash contaminated clothing before reuse.
 If skin irritation or rash occurs: Get medical advice/attention.
 If swallowed: Rinse mouth. Do NOT induce vomiting.
 In case of fire: Use for extinction: CO₂, powder or water spray.
 Store locked up.
 Store in a well-ventilated place. Keep cool.
 Dispose of contents/container in accordance with local/regional/national/international regulations.

Unknown acute toxicity:

22.5 percent of the mixture consists of ingredient(s) of unknown toxicity.

Classification system:
NFPA ratings (scale 0 - 4)

HMS-ratings (scale 0 - 4)

Other hazards None known

* 3 Composition/information on ingredients

Chemical characterization: Mixtures
Description: Mixture of substances listed below with nonhazardous additions.

Dangerous Components:

CAS: 694-83-7	cyclohex-1,2-ylenediamine ⚠ Skin Corr. 1B, H314; Eye Dam. 1, H318; ⚠ Skin Sens. 1, H317; H227	10-25%
CAS: 140-31-8 RTECS: TK 8050000	2-piperazin-1-ylethylamine ⚠ Skin Corr. 1B, H314; ⚠ Acute Tox. 4, H302; Acute Tox. 4, H312; Skin Sens. 1, H317; H227; Aquatic Chronic 3, H412	10-25%
CAS: 100-51-6 RTECS: DN 3150000	Benzyl alcohol ⚠ Acute Tox. 4, H302; Acute Tox. 4, H332	10-25%
CAS: 90-72-2	2,4,6-tris(dimethylaminomethyl)phenol ⚠ Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2A, H319	≤5%

(Contd. on page 3)

Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

Printing date 01/21/2015

Reviewed on 01/21/2015

Trade name: EP-FLEX Component B

(Contd. of page 2)

* 4 First-aid measures

- **Description of first aid measures**

- **General information:**

Immediately remove any clothing soiled by the product.

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

- **After inhalation:**

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

In case of unconsciousness, place patient securely on side position for transportation.

- **After skin contact:**

Immediately wash with water and soap and rinse thoroughly.

If skin irritation continues, consult a doctor.

- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.

- **After swallowing:**

Seek medical treatment.

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.

- **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**

Combustible liquid. Vapors can travel to a source of ignition and flash back.

Explosive mixtures may occur at temperatures at or above flashpoint.

- **Advice for firefighters**

- **Protective equipment:**

Because fire may produce thermal decomposition products, wear a self-contained breathing apparatus (SCBA) with a full face piece operated in pressure-demand or positive-pressure mode.

* 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 (ie. sand, diatomite, acid binders, universal binders, sawdust).

Use neutralizing agent.

Dispose contaminated material as waste according to section 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.

(Contd. on page 4)

Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

Printing date 01/21/2015

Reviewed on 01/21/2015

Trade name: EP-FLEX Component B

(Contd. of page 3)

*** 7 Handling and storage**

- **Handling:**
- **Precautions for safe handling**
Use personal protection equipment as outlined in section 8.
Avoid breathing fumes.
Do not take internally.
Avoid contact with skin, eyes and clothing
Ensure good ventilation/exhaustion at the workplace.
- **Information about protection against explosions and fires:** Protect from heat.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool, dry place.
- **Information about storage in one common storage facility:** See Section 10 (Incompatible materials)
- **Further information about storage conditions:**
Keep receptacle tightly sealed.
Protect from heat and direct sunlight.
- **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 section 7.
- **Control parameters**

· Components with occupational exposure limits:	
100-51-6 Benzyl alcohol	
WEEL	Long-term value: 10 ppm

- **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.
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:**



Protective gloves

- The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
- **Penetration time of glove material**
The exact break-through time has to be determined and observed by the manufacturer of the protective gloves.
- **Eye protection:** Tightly sealed goggles

(Contd. on page 5)

Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

Printing date 01/21/2015

Reviewed on 01/21/2015

Trade name: EP-FLEX Component B

(Contd. of page 4)

* 9 Physical and chemical properties

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

- **General Information**

- **Appearance:**

- **Form:** Liquid

- **Color:** Amber colored

- **Odor:** Ammonia-like

- **Odor threshold:** Not determined.

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

- **Change in condition**

- **Melting point/Melting range:** Not determined.

- **Boiling point/Boiling range:** 188 °C (370 °F)

- **Flash point:** >94 °C (>201 °F)

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

- **Ignition temperature:** 315 °C (599 °F)

- **Decomposition temperature:** Not determined.

- **Auto igniting:** Product is not selfigniting.

- **Danger of explosion:** Not determined.

- **Explosion limits:**

- **Lower:** 1.3 Vol %

- **Upper:** 13.0 Vol %

- **Vapor pressure @ 20 °C (68 °F):** 0.1 hPa

- **Density @ 20 °C (68 °F):** 0.970 g/cm³ (8.095 lbs/gal)

- **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:** Not determined.

- **Kinematic:** Not determined.

- **Solvent content:**

- **Organic solvents:** 22 %

- **VOC content:** 22 %

- **Solids content:** 100 %

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

* 10 Stability and reactivity

- **Reactivity** No further relevant information available.

- **Chemical stability** Stable under normal conditions.

- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.

(Contd. on page 6)

Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

Printing date 01/21/2015

Reviewed on 01/21/2015

Trade name: EP-FLEX Component B

(Contd. of page 5)

- **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:**

140-31-8 2-piperazin-1-ylethylamine

Oral	LD50	2140 mg/kg (rat)
Dermal	LD50	880 mg/kg (rabbit)
Inhalative	LC50/4 h	100 mg/l (Trout)

100-51-6 Benzyl alcohol

Oral	LD50	1230 mg/kg (rat)
Dermal	LD50	2000 mg/kg (rabbit)

- **Primary irritant effect:**

- **on the skin:**

Strong caustic effect on skin and mucous membranes.
May cause an allergic skin reaction.

- **on the eye:**

Strong irritant with the danger of severe eye injury.
Corrosive effect.

Causes serious eye irritation.

- **Sensitization:** Sensitization possible through skin contact.

- **Additional toxicological information:**

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

Corrosive

Irritant

Swallowing will lead to a corrosive effect on mouth and throat and to the danger of perforation of esophagus and stomach.

- **Carcinogenic categories**

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

None of the ingredients are listed.

Group 1 - Carcinogenic to humans
Group 2A - Probably carcinogenic to humans
Group 2B - Possibly carcinogenic to humans
Group 3 - Not classifiable as to its carcinogenicity to humans
Group 4 - Probably not carcinogenic to humans

- **NTP (National Toxicology Program)**

None of the ingredients are listed.

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

None of the ingredients are listed.

(Contd. on page 7)

Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

Printing date 01/21/2015

Reviewed on 01/21/2015

Trade name: EP-FLEX Component B

(Contd. of page 6)

*** 12 Ecological information**

· **Toxicity**

· **Aquatic toxicity:**

140-31-8 2-piperazin-1-ylethylamine

EC50 32 mg/l (daphnia)

· **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:**

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.

Water hazard class 2 (Self-assessment): Hazardous for water

· **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.

It is the generator's responsibility to determine if the waste meets applicable definitions of hazardous waste.

State and local regulations may differ from federal disposal regulations. Dispose of waste material according to local, state and federal environmental regulations.

· **Uncleaned packagings:**

· **Recommendation:** Disposal must be made according to official regulations.

*** 14 Transport information**

· **UN-Number**

· **DOT, ADR, IMDG, IATA**

UN1760

· **UN proper shipping name**

· **DOT**

Corrosive liquids, n.o.s. (N-Aminoethylpiperazine, cyclohex-1,2-ylenediamine)

· **ADR**

UN1760 Corrosive liquids, n.o.s. (N-Aminoethylpiperazine, cyclohex-1,2-ylenediamine)

· **IMDG, IATA**

CORROSIVE LIQUID, N.O.S. (N-AMINOETHYLPIPERAZINE, cyclohex-1,2-ylenediamine)

· **Transport hazard class(es)**

· **DOT**



· **Class**

8 Corrosive substances

(Contd. on page 8)

Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

Printing date 01/21/2015

Reviewed on 01/21/2015

Trade name: EP-FLEX Component B

(Contd. of page 7)

· **Label** 8

· **ADR**



· **Class** 8 (C9) Corrosive substances

· **Label** 8

· **IMDG, IATA**



· **Class** 8 Corrosive substances

· **Label** 8

· **Packing group** III

· **DOT, ADR, IMDG, IATA** III

· **Environmental hazards:**

· **Marine pollutant:** No

· **Special precautions for user** Warning: Corrosive substances

· **Danger code (Kemler):** 80

· **EMS Number:** F-A,S-B

· **Segregation groups** Alkalis

· **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: 5 L
On cargo aircraft only: 60 L

· **ADR**

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

· **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":** UN1760, Corrosive liquids, n.o.s. (N-Aminoethylpiperazine, cyclohex-1,2-ylenediamine), 8, 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 are listed.

(Contd. on page 9)

Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

Printing date 01/21/2015

Reviewed on 01/21/2015

Trade name: EP-FLEX Component B

(Contd. of page 8)

· Section 313 (Specific toxic chemical listings):
None of the ingredients are listed.
· TSCA (Toxic Substances Control Act):
All ingredients are listed.
· Proposition 65
· Chemicals known to cause cancer:
None of the ingredients are listed.
· Chemicals known to cause reproductive toxicity for females:
None of the ingredients are listed.
· Chemicals known to cause reproductive toxicity for males:
None of the ingredients are listed.
· Chemicals known to cause developmental toxicity:
None of the ingredients are listed.
· Carcinogenic categories
· EPA (Environmental Protection Agency)
None of the ingredients are listed.
· TLV (Threshold Limit Value established by ACGIH)
None of the ingredients are listed.
· NIOSH-Ca (National Institute for Occupational Safety and Health)
None of the ingredients are 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-piperazin-1-ylethylamine
cyclohex-1,2-ylenediamine
- **Hazard statements**
Combustible liquid.
Causes severe skin burns and eye damage.
May cause an allergic skin reaction.
- **Precautionary statements**
Keep away from flames and hot surfaces. – No smoking.
Do not breathe dusts or mists.
Wear protective gloves / eye protection / face protection.
Wear protective gloves.
Wear eye protection / face protection.
Wash thoroughly after handling.
Contaminated work clothing must not be allowed out of the workplace.

(Contd. on page 10)

Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

Printing date 01/21/2015

Reviewed on 01/21/2015

Trade name: EP-FLEX Component B

(Contd. of page 9)

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
 Continue rinsing.
 Immediately call a poison center/doctor.
 Specific treatment (see on this label).
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
 Wash contaminated clothing before reuse.
 If skin irritation or rash occurs: Get medical advice/attention.
 If swallowed: Rinse mouth. Do NOT induce vomiting.
 In case of fire: Use for extinction: CO₂, powder or water spray.
 Store locked up.
 Store in a well-ventilated place. Keep cool.
 Dispose of contents/container in accordance with local/regional/national/international regulations.

National regulations:

The product is subject to be labeled according with the prevailing version of the regulations on hazardous substances.

State Right to Know

CAS: 694-83-7	cyclohex-1,2-ylenediamine ⚠ Skin Corr. 1B, H314; Eye Dam. 1, H318; ⚠ Skin Sens. 1, H317; H227	10-25%
CAS: 140-31-8 RTECS: TK 8050000	2-piperazin-1-ylethylamine ⚠ Skin Corr. 1B, H314; ⚠ Acute Tox. 4, H302; Acute Tox. 4, H312; Skin Sens. 1, H317; H227; Aquatic Chronic 3, H412	10-25%
CAS: 100-51-6 RTECS: DN 3150000	Benzyl alcohol ⚠ Acute Tox. 4, H302; Acute Tox. 4, H332	10-25%
CAS: 90-72-2	2,4,6-tris(dimethylaminomethyl)phenol ⚠ Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2A, H319	≤5%

All ingredients are listed.

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

16 Other information

The information and recommendations in this safety data sheet are, to the best of our knowledge, accurate as of the date of issue. Nothing herein shall be deemed to create warranty, expressed or implied and shall not establish a legally valid contractual relationship. It is the responsibility of the user to determine applicability of this information and the suitability of the material or product for any particular purpose.

• **Date of preparation / last revision** 01/21/2015 / 3

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)
 ADN: The European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
 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
 : Flammable liquids, Hazard Category 4
 Acute Tox. 4: Acute toxicity, Hazard Category 4
 Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B

(Contd. on page 11)

Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

Printing date 01/21/2015

Reviewed on 01/21/2015

Trade name: EP-FLEX Component B

(Contd. of page 10)

Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2

Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1

Eye Irrit. 2A: Serious eye damage/eye irritation, Hazard Category 2A

Skin Sens. 1: Sensitisation - Skin, Hazard Category 1

Aquatic Chronic 3: Hazardous to the aquatic environment - Chronic Hazard, Category 3

· *** Data compared to the previous version altered.**SDS created by MSDS Authoring Services www.msdsauthoring.com (877) 204-9106