SAFETY DATA SHEET

Issuing Date 28-Oct-2014
Revision Date 17-Oct-2014
Revision Number 1

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

<table>
<thead>
<tr>
<th>Product identifier</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product SDS Name</td>
</tr>
<tr>
<td>Clear Epoxy Resin – Syringe – Part A</td>
</tr>
<tr>
<td>J-B Weld FG SKU Part Numbers Covered</td>
</tr>
<tr>
<td>50112, 50101, 50132, 50112-F, 50101-F, 50132-F, 80112, 40002</td>
</tr>
<tr>
<td>J-B Weld Product Names Covered</td>
</tr>
<tr>
<td>ClearWeld™ (all), PlasticWeld™ Syringe, MinuteWeld™ Syringe, Wood Restore™ Liquid Epoxy</td>
</tr>
<tr>
<td>J-B Weld Product Type</td>
</tr>
<tr>
<td>Epoxy</td>
</tr>
<tr>
<td>Recommended use of the chemical and restrictions on use</td>
</tr>
<tr>
<td>Recommended Use</td>
</tr>
<tr>
<td>General Purpose Adhesive</td>
</tr>
<tr>
<td>Uses advised against</td>
</tr>
<tr>
<td>No information available</td>
</tr>
<tr>
<td>Details of the supplier of the safety data sheet</td>
</tr>
<tr>
<td>Supplier Name</td>
</tr>
<tr>
<td>J-B WELD COMPANY, LLC</td>
</tr>
<tr>
<td>Supplier Address</td>
</tr>
<tr>
<td>1130 COMO ST</td>
</tr>
<tr>
<td>SULPHUR SPRINGS, TX 75482</td>
</tr>
<tr>
<td>USA</td>
</tr>
<tr>
<td>Emergency Telephone Numbers</td>
</tr>
<tr>
<td>Transportation Emergencies: Chemtrec (24 hour transportation emergency response info): 800-424-9300 or 703-527-3887</td>
</tr>
<tr>
<td>Poison/Medical Emergencies: Poison Control Centers (24 hour emergency poison / medical response info): 800-222-1222</td>
</tr>
<tr>
<td>Supplier Email</td>
</tr>
<tr>
<td><a href="mailto:info@jbweld.com">info@jbweld.com</a></td>
</tr>
<tr>
<td>Supplier Phone Number</td>
</tr>
<tr>
<td>903-885-7696</td>
</tr>
</tbody>
</table>
2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

<table>
<thead>
<tr>
<th>Hazard</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin corrosion/irritation</td>
<td>Category 2</td>
</tr>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>Category 1</td>
</tr>
<tr>
<td>Skin sensitization</td>
<td>Category 1</td>
</tr>
</tbody>
</table>

GHS Label elements, including precautionary statements

<table>
<thead>
<tr>
<th>Signal word</th>
<th>Warning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazard Statements</td>
<td></td>
</tr>
<tr>
<td>Causes severe skin irritation</td>
<td></td>
</tr>
<tr>
<td>May cause an allergic skin reaction</td>
<td></td>
</tr>
<tr>
<td>May cause serious eye damage / eye irritation</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Appearance</th>
<th>Physical State</th>
<th>Odor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clear</td>
<td>Gel Liquid</td>
<td>Ammoniacal</td>
</tr>
</tbody>
</table>

Precautionary Statements - Prevention

Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Use only outdoors or in a well-ventilated area
Do not breathe dust/fume/gas/mist/vapors/spray
Contaminated work clothing should not be allowed out of the workplace
Wear protective gloves

Precautionary Statements - Response

Immediately call a doctor/physician or poison control center.
Specific treatment (see supplemental first aid instructions on this label)

Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing Immediately call a doctor/physician

Skin

Call a POISON CENTER or doctor/physician if you feel unwell
Wash contaminated clothing before reuse
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
If skin irritation or rash occurs: Get medical advice/attention
Inhalation
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Call a POISON CENTER or doctor/physician if you feel unwell

Ingestion
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
Rinse mouth
Do NOT induce vomiting

Precautionary Statements - Storage
Store locked up

Precautionary Statements - Disposal
 Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)
Not applicable

Unknown Toxicity
75% of the mixture consists of ingredient(s) of unknown toxicity

Other information
Harmful to aquatic life with long lasting effects
Repeated or prolonged skin contact may cause allergic reactions with susceptible persons

Interactions with Other Chemicals
Use of alcoholic beverages may enhance toxic effects.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No</th>
<th>Weight-%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diglycidyl bisphenol A resin</td>
<td>25085-99-8</td>
<td>95</td>
</tr>
<tr>
<td>Oxirane, [(4-(1,1-dimethylethyl)phenoxy)methyl]-</td>
<td>3101-60-8</td>
<td>5</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

4.1 Description of first aid measures

- After inhalation:
  Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.
  In case of unconsciousness place patient stably in side position for transportation.

- After skin contact:
  Immediately wash with water and soap and rinse thoroughly.
  Immediately remove any clothing soiled by the product. If skin irritation continues, consult a doctor.

- After eye contact:
  Protect unharmed eye.
  Rinse opened eye for several minutes under running water. Then consult a doctor. Do not remove contact lenses if worn.
After swallowing:
Rinse out mouth and then drink plenty of water.
Do not induce vomiting; call for medical help immediately.

4.2 Most important symptoms and effects, both acute and delayed
Allergic reactions
Nausea
Dizziness

4.3 Indication of any immediate medical attention and special treatment needed
Treat skin and mucous membrane with antihistamine and corticoid preparations.
Monitor circulation.

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

5.2 Special hazards arising from the substance or mixture
Formation of toxic gases is possible during heating or in case of fire.

5.3 Advice for firefighters

5.3.1 Protective equipment:
Wear self-contained respiratory protective device.
Wear fully protective suit.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures
Use respiratory protective device against the effects of fumes/dust/aerosol.
Remove persons from danger area.
Ensure adequate ventilation
Wear protective equipment. Keep unprotected persons away.

6.2 Environmental precautions:
Do not allow to enter sewers/ surface or ground water.

6.3 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.
Clean the affected area carefully; suitable cleaners are:
Warm water and cleansing agent

6.4 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

7.1 Precautions for safe handling
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.

Information about fire - and explosion protection: No special measures required.

7.2 Conditions for safe storage, including any incompatibilities

Storage:

Requirements to be met by storerooms and receptacles: No special requirements.

Information about storage in one common storage facility:
Store away from oxidizing agents.
Store away from foodstuffs.
Do not store together with acids.

Further information about storage conditions: Store in cool, dry conditions in well sealed receptacles.

7.3 Specific end use(s) No further relevant information available.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Additional information about design of technical facilities: No further data; see item 7.

8.1 Control parameters

Ingredients 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 valid during the making were used as basis.

8.2 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.

Respiratory protection:
Use suitable respiratory protective device in case of insufficient ventilation.
Use suitable respiratory protective device when aerosol or mist is formed.

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**
  Butyl rubber, BR
  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 cannot 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:**
  ![Safety glasses](image)
  Safety glasses
  Goggles recommended during refilling

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### 9. PHYSICAL AND CHEMICAL PROPERTIES

#### 9.1 Information on basic physical and chemical properties

- **General Information**
  - **Appearance:** Liquid
  - **Form:** Liquid
  - **Colour:** Light yellow
  - **Odour:** Characteristic
  - **Odour threshold:** Not determined.
  - **pH-value:** Not determined.

- **Change in condition**
  - **Melting point/Melting range:** Undetermined.
  - **Boiling point/Boiling range:** > 200°C (> 392 °F)

- **Flash point:** > 93,3°C (> 200 °F)

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

- **Ignition temperature:**
  - **Decomposition temperature:** Not determined.
  - **Self-igniting:** Product is not selfigniting.
  - **Danger of explosion:** Product does not present an explosion hazard.

- **Explosion limits:**
  - **Lower:** Not determined.
  - **Upper:** Not determined.
### 9.2 Other information

Not determined.

### 10. STABILITY AND REACTIVITY

**10.1 Reactivity**

**10.2 Chemical stability**

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

**10.3 Possibility of hazardous reactions**

Reacts with oxidizing agents.
Reacts with amines.
Exothermic polymerization.

**10.4 Conditions to avoid**
No further relevant information available.

**10.5 Incompatible materials:** No further relevant information available.

**10.6 Hazardous decomposition products:** Carbon monoxide and carbon dioxide

### 11. TOXICOLOGY INFORMATION

**11.1 Information on toxicological effects**

**Acute toxicity:**

**Primary irritant effect:**

**on the skin:** Irritant to skin and mucous membranes.
**on the eye:** Irritating effect.

**Sensitization:**
Sensitization possible through skin contact.
Sensitizing effect through inhalation is possible by prolonged exposure.
12. ECOLOGICAL INFORMATION

- 12.1 Toxicity
  - Aquatic toxicity: The product contains materials that are harmful to the environment.
- 12.2 Persistence and degradability: The product is not easily, but potentially degradable.
- 12.3 Bioaccumulative potential
  - Due to the distribution coefficient n-octanol/water an accumulation in organisms is possible.
- 12.4 Mobility in soil: No further relevant information available.
- Additional ecological information:
  - General notes:
    - Water hazard class 2 (German Regulation) (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.
- 12.5 Results of PBT and vPvB assessment
  - PBT: Not applicable.
  - vPvB: Not applicable.
- 12.6 Other adverse effects: No further relevant information available.

13. DISPOSAL CONSIDERATIONS

- 13.1 Waste treatment methods
  - Recommendation
    - Must not be disposed together with household garbage. Do not allow product to reach sewage system.
    - Can be burned with household garbage after consulting with the waste disposal facility operator and adhering to the necessary technical regulations.
  - Uncleaned packaging:
    - Recommendation: Disposal must be made according to official regulations.

14. TRANSPORT INFORMATION

<table>
<thead>
<tr>
<th>14.1 UN-Number</th>
<th>DOT, ADR, ADN, IMDG, IATA</th>
<th>Not Regulated</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.2 UN proper shipping name</td>
<td>DOT, ADR, ADN, IMDG, IATA</td>
<td>Not Regulated</td>
</tr>
<tr>
<td>14.3 Transport hazard class(es)</td>
<td>DOT, ADR, ADN</td>
<td>Not Regulated</td>
</tr>
</tbody>
</table>
### IMDG, IATA

<table>
<thead>
<tr>
<th>Class</th>
<th>Not Regulated</th>
</tr>
</thead>
</table>

### 14.4 Packing group

<table>
<thead>
<tr>
<th>DOT, ADR, IMDG, IATA</th>
<th>Not Regulated</th>
</tr>
</thead>
</table>

### 14.5 Environmental hazards:

- **Marine pollutant:** Not Regulated

### 14.6 Special precautions for user

Not applicable.

### 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable.

### UN "Model Regulation"

- 

## 15. REGULATORY INFORMATION

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

- **United States (USA)**
  - **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 (California):**
      - **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.
· IARC (International Agency for Research on Cancer)
  None of the ingredients is listed.

· TLV (Threshold Limit Value established by ACGIH)
  None of the ingredients is listed.

· NIOSH-Ca (National Institute for Occupational Safety and Health)
  None of the ingredients is listed.

· OSHA-Ca (Occupational Safety & Health Administration)
  None of the ingredients is listed.

· Canada
  
  · Canadian Domestic Substances List (DSL)
    All ingredients are listed.
  
  · Canadian Ingredient Disclosure list (limit 0.1%)
    None of the ingredients is listed.
  
  · Canadian Ingredient Disclosure list (limit 1%)
    None of the ingredients is listed.

· 15.2 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.

· Relevant phrases
  H315: Causes skin irritation.
  H317: May cause an allergic skin reaction.
  H319: Causes serious eye irritation.
  H341: Suspected of causing genetic defects.
  H411: Toxic to aquatic life with long lasting effects.

  R36/38: Irritating to eyes and skin.
  R38: Irritating to skin.
  R43: May cause sensitisation by skin contact.
  R46: May cause heritable genetic damage. R51: Toxic to aquatic organisms.

· 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
  GHS: Globally Harmonized System of Classification and Labelling of Chemicals
  ACGIH: American Conference of Governmental Industrial Hygienists
  NFPA: National Fire Protection Association (USA)
  HMIS: Hazardous Materials Identification System (USA)
  WHMIS: Workplace Hazardous Materials Information System (Canada)
Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet
SAFETY DATA SHEET

Issuing Date 27-Oct 2014
Revision Date 17-Oct-2014
Revision Number 1

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier

Product SDS Name Clear Epoxy Hardener - Syringe - Part B

J-B Weld FG SKU Part Numbers Covered
50112, 80112, 50112-F

J-B Weld Product Names Covered
ClearWeld™ (all)

J-B Weld Product Type
Epoxy

Recommended use of the chemical and restrictions on use

Recommended Use General Purpose Adhesive
Uses advised against No information available

Details of the supplier of the safety data sheet

Supplier Name J-B WELD COMPANY, LLC
Supplier Address 1130 COMO ST
SULPHUR SPRINGS, TX 75482
USA

Emergency Telephone Numbers
Transportation Emergencies: Chemtrec (24 hour transportation emergency response info): 800-424-9300 or 703-527-3887
Poison/Medical Emergencies: Poison Control Centers (24 hour emergency poison / medical response info): 800-222-1222

Supplier Email info@jbweld.com
Supplier Phone Number 903-885-7696

2. HAZARDS IDENTIFICATION

Classification
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)
### GHS Label elements, including precautionary statements

<table>
<thead>
<tr>
<th>Hazard Statements</th>
<th>Precautionary Statements - Prevention</th>
<th>Precautionary Statements - Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Causes severe skin irritation</td>
<td>Obtain special instructions before use</td>
<td>Immediately call a POISON CENTER or doctor/physician</td>
</tr>
<tr>
<td>May cause serious eye damage / eye irritation</td>
<td>Do not handle until all safety precautions have been read and understood</td>
<td>Specific treatment (see supplemental first aid instructions on this label)</td>
</tr>
<tr>
<td>May cause an allergic skin reaction</td>
<td>Use personal protective equipment as required</td>
<td>Eyes</td>
</tr>
<tr>
<td></td>
<td>Wash face, hands and any exposed skin thoroughly after handling</td>
<td>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 or doctor/physician</td>
</tr>
<tr>
<td></td>
<td>Do not eat, drink or smoke when using this product</td>
<td>Skin</td>
</tr>
<tr>
<td></td>
<td>Use only outdoors or in a well-ventilated area</td>
<td>Call a POISON CENTER or doctor/physician if you feel unwell</td>
</tr>
<tr>
<td></td>
<td>Do not breathe dust/fume/gas/mist/vapors/spray</td>
<td>Wash contaminated clothing before reuse</td>
</tr>
<tr>
<td></td>
<td>Contaminated work clothing should not be allowed out of the workplace</td>
<td>IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower</td>
</tr>
<tr>
<td></td>
<td>Wear protective gloves</td>
<td>If skin irritation or rash occurs: Get medical advice/attention</td>
</tr>
</tbody>
</table>

### Appearance
- Pale yellow

### Physical State
- Gel
- Liquid

### Odor
- Ammoniacal
Ingestion
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
Rinse mouth
Do NOT induce vomiting

Precautionary Statements - Storage
Store locked up

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)
Not applicable

Unknown Toxicity
75% of the mixture consists of ingredient(s) of unknown toxicity

Other information
Harmful to aquatic life with long lasting effects
Repeatead or prolonged skin contact may cause allergic reactions with susceptible persons

Interactions with Other Chemicals
Use of alcoholic beverages may enhance toxic effects.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No</th>
<th>Weight-%</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,4,6-Tri(dimethylaminomethyl)phenol</td>
<td>90-72-2</td>
<td>7 - 13</td>
</tr>
<tr>
<td>1-(2-Aminoethyl) piperazine</td>
<td>140-31-8</td>
<td>&lt;5%</td>
</tr>
<tr>
<td>Benzyl alcohol</td>
<td>100-51-6</td>
<td>3 - 5</td>
</tr>
<tr>
<td>Ethylbenzene</td>
<td>100-41-4</td>
<td>&lt;1%</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

First aid measures

General Advice
Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.

Eye Contact
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Seek immediate medical attention/advice. Remove contact lenses, if present and easy to do. Continue rinsing.

Skin Contact
Immediate medical attention is required. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. May cause an allergic skin reaction.

Inhalation
Remove to fresh air. Get medical attention immediately if symptoms occur. If breathing is difficult, (trained personnel should) give oxygen. If breathing has stopped, give artificial respiration. Get medical attention immediately. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation.
Ingestion

Do NOT induce vomiting. Rinse mouth immediately and drink plenty of water. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately.

Self-protection of the first aider

Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Use personal protective equipment as required. Wear personal protective clothing (see section 8). Avoid breathing vapors or mists. Avoid contact with skin, eyes or clothing.

Most important symptoms and effects, both acute and delayed

Most Important Symptoms and Effects


Indication of any immediate medical attention and special treatment needed

Notes to Physician

Treat symptomatically. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxiation from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure. May cause sensitization of susceptible persons.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

CAUTION: Use of water spray when fighting fire may be inefficient.

Specific Hazards Arising from the Chemical

The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors. Product is or contains a sensitizer. May cause sensitization by skin contact.

Uniform Fire Code

Combustible Liquid: III-B
Sensitizer: Liquid

Hazardous Combustion Products

Carbon oxides.

Explosion Data

Sensitivity to Mechanical Impact  No. Sensitivity

to Static Discharge  No.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.
6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions

Attention! Corrosive material. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Avoid breathing vapors or mists. Avoid generation of dust.

Other Information

Refer to protective measures listed in Sections 7 and 8.

Environmental Precautions

Refer to protective measures listed in Sections 7 and 8. Prevent further leakage or spillage if safe to do so. Should not be released into the environment. Do not allow to enter into soil/subsoil. Prevent product from entering drains.

Methods and material for containment and cleaning up

Methods for Containment

Prevent further leakage or spillage if safe to do so.

Methods for cleaning up

Soak up with inert absorbent material. Pick up and transfer to properly labeled containers.

7. HANDLING AND STORAGE

Precautions for safe handling

Handling

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Avoid breathing vapors or mists. Use only with adequate ventilation and in closed systems. In case of insufficient ventilation, wear suitable respiratory equipment. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse.

Conditions for safe storage, including any incompatibilities

Storage

Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from moisture. Store locked up. Keep out of the reach of children. Store away from other materials.

Incompatible Products


8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylbenzene 100-41-4</td>
<td>TWA: 20 ppm</td>
<td>TWA: 100 ppm</td>
<td>IDLH: 800 ppm</td>
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<tr>
<td></td>
<td></td>
<td>TWA: 435 mg/m³</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>(vacated) TWA: 100 ppm</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA: 435 mg/m³</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(vacated) STEL: 125 ppm</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(vacated) STEL: 545 mg/m³</td>
<td></td>
</tr>
</tbody>
</table>

Other Exposure Guidelines

See section 15 for national exposure control parameters

Appropriate engineering controls

Engineering Measures

Showers
Eyewash stations
Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/Face Protection
Tight sealing safety goggles. Face protection shield.

Skin and Body Protection
Wear protective gloves and protective clothing. Long sleeved clothing. Chemical resistant apron. Impervious gloves.

Respiratory Protection
No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

Hygiene Measures
Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. For environmental protection, remove and wash all contaminated protective equipment before re-use.

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Physical and Chemical Properties</th>
<th>Values</th>
<th>Remarks/ Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Gel Liquid</td>
<td></td>
</tr>
<tr>
<td>Appearance</td>
<td>Pale yellow</td>
<td>Odor Ammoniacal</td>
</tr>
<tr>
<td>Color</td>
<td>No information available</td>
<td>Odor Threshold No information available</td>
</tr>
<tr>
<td>Property</td>
<td>pH</td>
<td>UNKNOWN</td>
</tr>
<tr>
<td></td>
<td>Melting / freezing point</td>
<td>None known</td>
</tr>
<tr>
<td></td>
<td>Boiling point / boiling range</td>
<td>none known</td>
</tr>
<tr>
<td></td>
<td>Flash Point</td>
<td>none known</td>
</tr>
<tr>
<td></td>
<td>Evaporation Rate</td>
<td>none known</td>
</tr>
<tr>
<td></td>
<td>Flammability (solid, gas)</td>
<td>none known</td>
</tr>
<tr>
<td></td>
<td>Upper flammability limit</td>
<td>none known</td>
</tr>
<tr>
<td></td>
<td>Lower flammability limit</td>
<td>none known</td>
</tr>
<tr>
<td></td>
<td>Vapor pressure</td>
<td>none known</td>
</tr>
<tr>
<td></td>
<td>Vapor density</td>
<td>none known</td>
</tr>
<tr>
<td></td>
<td>Specific Gravity</td>
<td>none known</td>
</tr>
<tr>
<td></td>
<td>Water Solubility</td>
<td>Miscible in water</td>
</tr>
<tr>
<td></td>
<td>Solubility in other solvents</td>
<td>none known</td>
</tr>
<tr>
<td></td>
<td>Partition coefficient: n-octanol/water</td>
<td>none known</td>
</tr>
<tr>
<td></td>
<td>Autoignition temperature</td>
<td>none known</td>
</tr>
<tr>
<td></td>
<td>Decomposition temperature</td>
<td>none known</td>
</tr>
<tr>
<td></td>
<td>Kinematic viscosity</td>
<td>none known</td>
</tr>
<tr>
<td></td>
<td>Dynamic viscosity</td>
<td>400</td>
</tr>
<tr>
<td></td>
<td>Explosive properties</td>
<td>none known</td>
</tr>
<tr>
<td></td>
<td>Oxidizing Properties</td>
<td>none known</td>
</tr>
<tr>
<td></td>
<td>Softening Point</td>
<td>none data available</td>
</tr>
<tr>
<td></td>
<td>VOC Content (%)</td>
<td>&lt;1%</td>
</tr>
<tr>
<td></td>
<td>Particle Size</td>
<td>none data available</td>
</tr>
<tr>
<td></td>
<td>Particle Size Distribution</td>
<td>none data available</td>
</tr>
</tbody>
</table>
10. STABILITY AND REACTIVITY

Reactivity
No data available.

Chemical stability
Stable under recommended storage conditions.

Possibility of Hazardous Reactions
None under normal processing.

Hazardous Polymerization
Hazardous polymerization does not occur.

Conditions to avoid
Exposure to air or moisture over prolonged periods. Excessive heat.

Incompatible materials

Hazardous Decomposition Products
Carbon oxides.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation
Specific test data for the substance or mixture is not available. Corrosive by inhalation. (based on components). Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic edema of the lungs. Pulmonary edema can be fatal. May cause irritation of respiratory tract. Harmful by inhalation.

Eye Contact
Specific test data for the substance or mixture is not available. Causes burns. (based on components). Corrosive to the eyes and may cause severe damage including blindness. Causes serious eye damage. May cause irreversible damage to eyes.

Skin Contact
Specific test data for the substance or mixture is not available. Corrosive. (based on components). Causes burns. May be absorbed through the skin in harmful amounts. Harmful in contact with skin.

Ingestion
Specific test data for the substance or mixture is not available. Causes burns. (based on components). Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung damage if swallowed. May be fatal if swallowed and enters airways. Ingestion may cause irritation to mucous membranes. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. May be harmful if swallowed.

Component Information

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Oral LD50</th>
<th>Dermal LD50</th>
<th>Inhalation LC50</th>
</tr>
</thead>
</table>
2,4,6-Tris(dimethylaminomethyl)phenol 90-72-2

1-(2-Aminoethyl) piperazine 140-31-8

Benzyl alcohol 100-11-5

Ethylbenzene 100-41-4

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>IARC</th>
<th>NTP</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylbenzene 100-41-4</td>
<td>A3</td>
<td>Group 2B</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ATEmix (oral)</th>
<th>ATEmix (dermal)</th>
<th>ATEmix (inhalation-gas)</th>
<th>ATEmix (inhalation-dust/mist)</th>
<th>ATEmix (inhalation-vapor)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>728.00 mg/kg</td>
<td>1,140.00 mg/kg</td>
<td>18,750.00 ppm (4 hr)</td>
<td>6.20 mg/l</td>
<td>46.00 ATEmix</td>
</tr>
</tbody>
</table>

Symptoms

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization
May cause sensitization of susceptible persons. May cause sensitization by skin contact. May cause sensitization by inhalation.

Mutagenic Effects
No information available.

Carcinogenicity
The table below indicates whether each agency has listed any ingredient as a carcinogen.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>IARC</th>
<th>NTP</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylbenzene 100-41-4</td>
<td>A3</td>
<td>Group 2B</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

ACGIH (American Conference of Governmental Industrial Hygienists)
A3 - Animal Carcinogen

IARC (International Agency for Research on Cancer)
Group 2B - Possibly Carcinogenic to Humans

OSHA (Occupational Safety and Health Administration of the US Department of Labor)
X - Present

Reproductive Toxicity
No information available.

STOT - single exposure
No information available.

STOT - repeated exposure
No information available.

Chronic Toxicity
Chronic exposure to corrosive fumes/gases may cause erosion of the teeth followed by jaw necrosis. Bronchial irritation with chronic cough and frequent attacks of pneumonia are common. Gastrointestinal disturbances may also be seen. Contains a known or suspected carcinogen.

Target Organ Effects

Aspiration Hazard
No information available.

Numerical measures of toxicity Product Information

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)
728.00 mg/kg

ATEmix (dermal)
1,140.00 mg/kg (ATE)

ATEmix (inhalation-gas)
18,750.00 ppm (4 hr)

ATEmix (inhalation-dust/mist)
6.20 mg/l

ATEmix (inhalation-vapor)
46.00 ATEmix
12. ECOLOGICAL INFORMATION

**Ecotoxicity**
Harmful to aquatic life with long lasting effects.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Toxicity to Algae</th>
<th>Toxicity to Fish</th>
<th>Toxicity to Microorganisms</th>
<th>Daphnia Magna (Water Flea)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-(2-Aminoethyl) piperazine 140-31-8</td>
<td>72h EC50: = 495 mg/L (Pseudokirchneriella subcapitata)</td>
<td>96h LC50: &gt; 1000 mg/L (Poecilia reticulata) 96h LC50: &gt;= 100 mg/L (Oncorhynchus mykiss) 96h LC50: 1950 - 2460 mg/L (Pimephales promelas)</td>
<td>EC50 &gt; 10000 mg/L 17 h</td>
<td>48h EC50: = 32 mg/L</td>
</tr>
<tr>
<td>Benzyl alcohol 100-51-6</td>
<td>3h EC50: = 35 mg/L (Anabaena variabilis)</td>
<td>96h LC50: = 10 mg/L (Lepomis macrochirus) 96h LC50: = 460 mg/L (Pimephales promelas)</td>
<td>EC50 = 50 mg/L 5 min 96h LC50: = 11.0 - 18.0 mg/L (Oncorhynchus mykiss) 96h LC50: = 4.2 mg/L (Oncorhynchus mykiss) 96h LC50: 7.55 - 11 mg/L (Pimephales promelas) 96h LC50: = 32 mg/L (Lepomis macrochirus) 96h LC50: 9.1 - 15.6 mg/L (Pimephales promelas) 96h LC50: = 9.6 mg/L (Poecilia reticulata)</td>
<td>48h EC50: = 23 mg/L</td>
</tr>
<tr>
<td>Ethylbenzene 100-41-4</td>
<td>72h EC50: = 4.6 mg/L (Pseudokirchneriella subcapitata) 96h EC50: &gt; 438 mg/L (Pseudokirchneriella subcapitata) 72h EC50: 2.6 - 11.3 mg/L (Pseudokirchneriella subcapitata) 96h EC50: 1.7 - 7.6 mg/L (Pseudokirchneriella subcapitata)</td>
<td>96h LC50: 11.0 - 18.0 mg/L (Oncorhynchus mykiss) 96h LC50: = 4.2 mg/L (Oncorhynchus mykiss) 96h LC50: 7.55 - 11 mg/L (Pimephales promelas) 96h LC50: = 32 mg/L (Lepomis macrochirus) 96h LC50: 9.1 - 15.6 mg/L (Pimephales promelas) 96h LC50: = 9.6 mg/L (Poecilia reticulata)</td>
<td>EC50 = 9.68 mg/L 30 min 96h LC50: = 96 mg/L 24 h</td>
<td>48h EC50: = 1.8 - 2.4 mg/L</td>
</tr>
</tbody>
</table>

**Persistence and Degradability**
No information available.

**Bioaccumulation**
No information available.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Log Pow</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-(2-Aminoethyl) piperazine 140-31-8</td>
<td>-1.48</td>
</tr>
<tr>
<td>Benzyl alcohol 100-51-6</td>
<td>1.1</td>
</tr>
<tr>
<td>Ethylbenzene 100-41-4</td>
<td>3.118</td>
</tr>
</tbody>
</table>

**Other adverse effects**
No information available.

13. DISPOSAL CONSIDERATIONS

**Waste treatment methods**

**Disposal methods**
This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.

**Contaminated Packaging**
Dispose of contents/containers in accordance with local regulations.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>RCRA</th>
<th>RCRA - Basis for Listing</th>
<th>RCRA - D Series Wastes</th>
<th>RCRA - U Series Wastes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylbenzene 100-41-4</td>
<td>Included in waste stream: F039</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
California Hazardous Waste Codes 331

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>California Hazardous Waste</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylbenzene 100-41-4</td>
<td>Toxic Ignitable</td>
</tr>
</tbody>
</table>

14. TRANSPORT INFORMATION

DOT
- Proper Shipping Name: NON REGULATED
- Hazard Class: N/A
TDG: Not regulated
MEX: Not regulated
ICAO: Not regulated
IATA
- Proper Shipping Name: NON REGULATED
- Hazard Class: N/A
IMDG/IMO: Not regulated
Hazard Class: N/A
RID: Not regulated
ADR: Not regulated
ADN: Not regulated

15. REGULATORY INFORMATION

International Inventories

TSCA: Complies
DSL: All components are listed either on the DSL or NDSL.

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

US Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No</th>
<th>Weight-%</th>
<th>SARA 313 - Threshold Values %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylbenzene - 100-41-4</td>
<td>100-41-4</td>
<td>1 - 5</td>
<td>0.1</td>
</tr>
</tbody>
</table>

SARA 311/312 Hazard Categories

- Acute Health Hazard: Yes
- Chronic Health Hazard: Yes
- Fire Hazard: No
- Sudden release of pressure hazard: No
- Reactive Hazard: No
CWA (Clean Water Act)
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CWA - Reportable Quantities</th>
<th>CWA - Toxic Pollutants</th>
<th>CWA - Priority Pollutants</th>
<th>CWA - Hazardous Substances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylbenzene 100-41-4</td>
<td>1000 lb</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

CERCLA
This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Hazardous Substances RQs</th>
<th>Extremely Hazardous Substances RQs</th>
<th>RQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylbenzene 100-41-4</td>
<td>1000 lb</td>
<td></td>
<td>RQ 1000 lb final RQ</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>RQ 454 kg final RQ</td>
</tr>
</tbody>
</table>

US State Regulations

California Proposition 65
This product contains the following Proposition 65 chemicals.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>California Proposition 65</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylbenzene - 100-41-4</td>
<td>Carcinogen</td>
</tr>
</tbody>
</table>

U.S. State Right-to-Know Regulations

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>New Jersey</th>
<th>Massachusetts</th>
<th>Pennsylvania</th>
<th>Rhode Island</th>
<th>Illinois</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-(2-Aminoethyl) piperazine 140-31-8</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Benzyl alcohol 100-51-6</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethylbenzene 100-41-4</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

International Regulations

Mexico National occupational exposure limits

<table>
<thead>
<tr>
<th>Component</th>
<th>Carcinogen Status</th>
<th>Exposure Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylbenzene 100-41-4 (1-5)</td>
<td></td>
<td>Mexico: TWA 100 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mexico: TWA 435 mg/m^3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mexico: STEL 125 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mexico: STEL 545 mg/m^3</td>
</tr>
</tbody>
</table>

Mexico - Occupational Exposure Limits - Carcinogens

Canada
WHMIS Hazard Class
D2A - Very toxic materials
D2B - Toxic materials
16. OTHER INFORMATION

<table>
<thead>
<tr>
<th>NFPA</th>
<th>Health Hazards</th>
<th>Flammability</th>
<th>Instability</th>
<th>Physical and Chemical Hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3</td>
<td>1</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HMIS</th>
<th>Health Hazards</th>
<th>Flammability</th>
<th>Physical Hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3 *</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

Chronic Hazard Star Legend  *= Chronic Health Hazard

Prepared By          J-B Weld Company
Revision Date        17-Oct-2014
Revision Note        No information available

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End of Safety Data Sheet