

### Section 1. Product and Company Identification

**Product Name:** Acid Shield Hardener – Part B  
**Supplier:** CSNRI | 621 Lockhaven Drive. Houston, TX 77073 | +1 281.590.8491  
**Emergency Phone Number:** 800.424.9300 (CHEMTREC)  
 +1 703.741.5970 (Outside the US)  
**Product Description:** Hardener solution  
**Product Use:** Intended to repair pipes

### Section 2. Hazard Identification

#### Classification of the substance or mixture:

Acute Toxicity / Oral - Category 4  
 Acute Toxicity / Inhalation - Category 4  
 Acute Toxicity / Dermal - Category 4  
 Skin corrosion / Irritation - Category 1A  
 Eye damage / Irritation - Category 1  
 STOT - Category 3

#### Label Elements:



**Signal Word:** Danger

#### Hazard Statements:

H302 Harmful if swallowed  
 H332 Harmful if inhaled  
 H312 Harmful in contact with skin  
 H314 Causes severe skin burns and eye damage  
 H318 Causes serious eye damage  
 H335 May cause respiratory irritation

#### Precautionary Statement:

P261 Avoid breathing dust / fume / gas / mist / vapours / spray.  
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.  
 P362 Take off contaminated clothing and wash before reuse.  
 P301+ P330 + P331 IF SWALLOWED: Rinse mouth. Do not induce vomiting.  
 P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.  
 P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
 P333 + P313 If skin irritation or rash occurs: get medical advice / attention.

**Other hazards:** None known.

### Section 3. Composition/ Information on Ingredients


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**Substances:** Not applicable

**Mixture:**

Chemical Name	CAS-No	Weight %
Benzyl alcohol	100-51-6	30 – 80
Cyclohex-1,2-ylenediamine	694-83-7	10 – 30
Salicylic acid	69-72-7	1 – 3

*The specific chemical identity and / or exact percentage of composition may be withheld as a secret.*

**Section 4. First Aid Measures**

**Description of first-aid measures:**

**General advice:** If symptoms persist, call a physician. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing.

**Inhalation** Move to fresh air. If symptoms persist, call a physician.

**Skin contact:** Remove contaminated clothing. Wipe excess from skin. Lather with waterless skin cleaner and then wash with warm soap and water. If irritation occurs, get medical attention.

**Eye contact:** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Remove contact lenses. Protect unharmed eye. If symptoms persist, call a physician.

**Ingestion:** Do not induce vomiting. Drink plenty of water. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.

**Most important symptoms/effects, acute and delayed:** None known.

**Indication of immediate medical attention and special treatment needed:** Treat symptomatically.

**Section 5. Fire Fighting Measures**

**Suitable extinguishing media:** Carbon dioxide, foam, dry chemical, water fog.

**Unsuitable extinguishing media:** High volume water jet.

**Special hazards arising from the substance or mixture:** Hazardous Decomposition Materials (Under Fire Conditions): Carbon oxides and nitrogen oxides.

**Special protective actions for fire-fighters:** Use water to keep fire exposed containers cool. Do not use high volume water jet on the fire as this may spread the area of the fire. Wear complete firefighting gear and self-contained breathing apparatus to protect against potential harmful and/or irritating fumes.

**Section 6. Accidental Release Measures**

**Personal precautions, protective equipment and emergency procedures:** Isolate area. Keep unnecessary and unprotected personnel from entering the involved area. Avoid contact with eyes, skin and clothing. Use gloves and safety glasses.

**For non-emergency personnel:** Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Avoid contact with eyes, skin and clothing. Use gloves and safety glasses.

**For emergency responders:** Use personal protective equipment. Wear self-contained breathing apparatus for firefighting if necessary.

**Environmental precautions:** Prevent entry into waterways, sewers, basements or confined areas. Do not flush into surface water or sanitary sewer system. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Avoid release to the environment

**Methods and material for containment and cleaning up:** Stop leak without additional risk. Dike and absorb with inert absorbent material (e.g., sand, silica gel, acid binder, universal binder, sawdust) and collect in a


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suitable, closed and labeled container. Dispose of in accordance with applicable local and federal environmental control regulations.

**Section 7. Handling and Storage**

**Precautions for safe handling:** Ventilate work area. Avoid skin contact. Skin contact with hot material may cause thermal burns. Wash skin thoroughly after handling. Launder contaminated clothing before reuse or discard. Never apply a direct flame to any container of product.

**Conditions for safe storage including any incompatibilities:** Store in a cool, dry place with adequate ventilation. Keep in original containers. Store in tightly closed containers to prevent moisture absorption and loss of volatiles. Store away from strong acids, bases, and oxidizing agents. Recommended storage temperature is between 36 F and 104 F.

**Section 8. Exposure Controls / Personal Protection**

**Control parameters:** Contains no substances with occupational exposure limit values.

**Appropriate Engineering Controls:** Ventilation must be adequate for most operations.

**Individual protection measures:**

**Eye / face protection:** Wear safety glasses with side shields or chemical splash goggles when exposure is more likely.

**Skin protection:** Wear liquid-proof, chemical resistant gloves (nitrile-butyl rubber, neoprene, butyl rubber or natural rubber) and full body-covering clothing.

**Respiratory protection:** In case of inadequate ventilation wear respiratory protection. Use respirators when exposure to vapors from heated material.

**Other information:** Wash thoroughly after handling. Avoid breathing vapors from heated material. Protective skin cream barriers can be applied to hands in addition to gloves for added protection.

**Section 9. Physical and Chemical Properties**

<b>Physical state:</b>	Liquid
<b>Colour:</b>	Red
<b>Odor:</b>	Slight
<b>Odor Threshold:</b>	No data available
<b>Melting Point Range:</b>	No applicable
<b>Boiling point:</b>	No data available
<b>Flammability (solid, gas):</b>	No data available
<b>Flammability Limits in Air:</b>	Not established for this product
<b>Flash Point:</b>	> 106 °C (223 °F) (Method: Pensky-Martens closed cup)
<b>Auto-ignition Temperature:</b>	No data available
<b>Decomposition Temperature:</b>	No data available
<b>pH:</b>	No data available
<b>Viscosity:</b>	2,700 – 10,000 mPa.s at 77 °F (Method: Rheometer)
<b>Water Solubility:</b>	Partly soluble
<b>Solubility in other solvents:</b>	Practically insoluble (20 °C)
<b>Partition coefficient (n-octanol/water):</b>	No data available
<b>Vapor Pressure:</b>	No data available
<b>Density:</b>	1.08 g/cm <sup>3</sup> at 77 °F (25 °C)
<b>Vapor density (Air=1)</b>	No data available
<b>Evaporation rate (ether=1):</b>	No data available



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## Section 10. Stability and Reactivity

**Reactivity:** No dangerous reaction known under conditions of normal use.

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

**Possibility of hazardous reactions:** None under normal processing.

**Conditions to avoid:** None known.

**Incompatible materials:** None known.

**Hazardous decomposition products:** Nitrogen oxides. Carbon oxides. Burning produces noxious and toxic fumes.

## Section 11. Toxicological Information

## Acute toxicity

Oral	Dermal	Inhalation
1,000 – 1,200 mg/kg LD50 (rat)	> 5,000 mg/kg LD50	No data available

**Skin corrosion/irritation:** Corrosive for skin.

## Serious eye damage / eye irritation:

Chemical	Species	Result
Benzyl alcohol	Rabbit	Irritant to eyes
Cyclohex-1,2-ylenediamine	Rabbit	Risk of serious damage to eyes
Salicylic acid	Rabbit	Irreversible effects on the eyes

**Respiratory or skin sensitization:** May causes sensitization by contact with skin. Tested on Guinea pig.

**Germ cell mutagenicity:** Negative results for individual components.

**Carcinogenicity:** Negative results for oral and dermal routes for individual components. Tested on male and female rat species. Method OECD Test Guideline 453. No ingredient of this product is listed as carcinogen or potential carcinogen by IARC / ACGIH / OSHA / NTP.

**Reproductive toxicity:** No teratogenic effects for individual components.

**Developmental toxicity:** No information available.

**STOT- single exposure:** May cause respiratory irritation.

**STOT- repeated exposure:** No information available.

**Aspiration hazard:** No information available.

**Information on the likely route of exposure:** No information available.

**Symptoms related to the physical, chemical and toxicological characteristics:** No data available

**Delayed and immediate effects and also chronic effects from short and long-term exposure:**

**Short term exposure:** No specific data.

**Long term exposure:** No specific data

**Numerical measures of toxicity:** No information available.

## Section 12. Ecological Information

## Toxicity Effects:

Component	Fish (LC50)	Daphnia / aquatic invertebrates (EC50)	Algae (EC 50) Fresh water
Benzyl alcohol	460 mg/l – 96h	230 mg/l – 48h	770 mg/l – 72h
Cyclohex-1,2-ylenediamine	200 mg/l – 48h	19.8 mg/l – 48h	29.6 mg/l – 72h
Salicylic acid	1,370 mg/l – 96h	870 mg/l – 48h	>100 mg/l – 72h


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**Persistence and degradability:** Readily biodegradable

**Bioaccumulative potential:**

Component	Partition coefficient n-octanol/water
Benzyl alcohol	Log Pow: 1.1 at 20 °C
Cyclohex-1,2-ylenediamine	Log Pow: <-0.9 at 20 °C
Salicylic acid	Log Pow: 2.25 at 25 °C

**Mobility in soil:**

Component	Distribution among environmental compartments
Benzyl alcohol	Koc: 5 – 15
Salicylic acid	Koc: 35

**Other adverse effects:** No information available.

**Section 13. Disposal Considerations**

**Waste treatment methods:** Do not dump to ground, sewers or watercourses. Dispose of at a licensed waste disposal facility utilizing methods that are in compliance with all applicable federal, state and local laws regulations. Waste characterization and compliance with applicable laws are the responsibility solely of the waste generator. Empty containers should be taken to an approved waste handling site for recycling or disposal.

**Section 14. Transport Information**
**IATA**

**UN number:** UN 2735  
**UN proper shipping name:** Polyamines, liquid, corrosive, n.o.s. (1,2 Diamino cyclohexane)  
**Transport hazard class:** Class 8  
**Packing group:** II  
**Environmental hazard:** No  
**Packing instruction (cargo aircraft):** 855  
**Packing instruction (passenger aircraft):** 851

**IMDG**

**UN number:** UN 2735  
**UN proper shipping name:** Polyamines, liquid, corrosive, n.o.s. (1,2 Diamino cyclohexane)  
**Transport hazard class:** Class 8  
**Packing group:** II  
**Environmental hazard:** No  
**EMS number:** F-A, S-B  
**Transport in bulk according to Annex II of MRPOL 73/78 and the IBC Code**

**DOT**

**UN number:** UN 2735  
**UN proper shipping name:** Polyamines, liquid, corrosive, n.o.s. (1,2 Diamino cyclohexane)  
**Transport hazard class:** Class 8  
**Packing group:** II  
**Environmental hazard:** No

### Section 15. Regulatory Information

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

##### US federal regulations:

SARA Title III Section 311/312 (40CFR370): Acute health hazard

SARA Title III Section 313 (40CFR372): No reportable components

CERCLA Status (40CFR302): No reportable quantity components.

OSHA/NTP/IARC/ACGIH Carcinogen status: No component of this product present at levels greater than 0.1% is identified as a carcinogen or potential carcinogen.

TSCA Status: No substances are subject to TSCA 12 (b) export notification requirements.

This product does not contain any hazardous air pollutants (HAP), as defined by the US Clean Air Act Section 112 (40 CFR 61).

##### US state regulations:

California Prop. 65: This product does not contain any chemicals known to State of California to cause cancer, birth defects or any other reproductive harm.

##### International regulations:

The components of this product are reported in the following inventories:

CH INV	ENCS	IECSC
DSL	KECI	TCSI
AICS	PICCS	NZIoC

### Section 16. Other Information

#### Further information

##### NFPA 704:



3 – Health  
1 – Flammability  
0 – Instability

#### Abbreviations and acronyms used:

CAS:	Chemical Abstracts Service
IATA:	International Air Transport Association
ICAO:	International Civil Aviation Organization
IMDG:	International Maritime Dangerous Goods
N/A:	Not Applicable
ND:	Not Determined
NIOSH:	National Institute for Occupational Safety and Health
OSHA:	Occupational Safety and Health Administration
DSL:	Canada Domestic Substance List
CH INV:	Switzerland Chemical Inventory
AICS:	Australian Inventory of Chemical Substances
NZIoC:	New Zealand Inventory of Chemicals
ENCS:	Japanese Existing and New Chemical Substances Inventory
KECI:	Korea Existing Chemicals Inventory

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PICCS: Philippine Inventory of Chemicals and Chemical Substances  
IECSC: Inventory of Existing Chemical Substance in China  
TCSI: Taiwan Chemical Substance Inventory

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