MATERIAL SAFETY DATA SHEET

CLOSED 1 D

Revision Date: 08/01/06
Supersedes: 08/06/02

1. PRODUCT NAME AND COMPANY IDENTIFICATION

Product Name: CLOSED 1 D, **Chemical Name:** Proprietary Alkaline Blend, **Chemical Family:** Mixture, **Formula:** Not Applicable, Mixture, **CAS Registry Number:** Not Applicable, Mixture.
Manufacturer: ZEE COMPANY, INC., 4146 South Creek Road, Chattanooga, TN 37406
Telephone Numbers: Transportation Emergency: CHEMTREC: (800) 424-9300, Product Information: (423) 698-1401

2. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS#	% by Wt.	Hazardous*
Sodium Nitrite	7632-00-0	50 – 60	Yes
Sodium Hydroxide	1310-73-2	1 - 10	Yes
Sodium Tetraborate Decahydrate	1303-96-4	10 - 20	Yes
Hydroxyphosphonoacetic Acid	23783-26-8	1 - 10	Yes
Other Ingredients		10 – 20	No

* By OSHA definition, 29 CFR 1910.1200 (See Section 3 for Hazard Identification and Section 8 for Exposure Guidelines)

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: Corrosive Solid. Can cause severe damage to eyes and skin. Harmful if swallowed.

Routes of Exposure: Contact, ingestion. **Target Organ Effects: Eyes:** Causes severe burns. Can result in permanent damage and loss of vision. **Skin:** Causes burns and frequently deep ulceration with scarring. Prolonged contact destroys tissue. **Ingestion:** Causes serious damage to the mucous membranes or other tissues contacted. **Inhalation:** Irritating and causes nasal discharge, coughing and discomfort or pain in eyes, nose, throat and chest. **Carcinogenicity, Chronic Effects:** No listed carcinogens present. High dose animal studies indicate reproductive effects with Boron compounds. Sodium Nitrite is tumorigenic and demonstrates reproductive effects in animal studies and is mutagenic in bacterial and mammalian cells.

4. FIRST AID MEASURES

Eyes: Flush with clean cool water for 15 minutes holding eyelids open. See a physician immediately. **Skin:** Immediately flush skin with plenty of water while removing contaminated clothing and boots. See a physician. **Ingestion:** Drink plenty of water or milk. Do not induce vomiting. See a physician immediately. **Inhalation:** Remove to fresh air. If not breathing give artificial respiration. See a physician.

5. FIRE FIGHTING MEASURES

Flammable Properties: Solid product. Will not burn but will melt when exposed to fire temperatures. **Hazardous Combustion Products:** Oxides of carbon, nitrogen, phosphorous. **General Hazards:** Corrosive solid, caustic.

Dissolves in water to give a highly alkaline solution, which at high temperatures may be corrosive to some metals with release of hydrogen. **Extinguishing Media:** Water, ABC dry chemical. **Fire Fighting Instructions:** Normal firefighting procedures apply. Self-contained breathing apparatus should be worn. **Other Information:** Flash Points: Not Applicable, Autoignition Temperature: Not Applicable, Flammability Limits in Air (% by volume): Not Applicable.

6. ACCIDENTAL RELEASE (SPILL MEASURES)

Confine large spills. Do not flush with water. Collect spilled material into approved hazardous waste container. Residue may be cleaned up with water but rinse water may require collection and neutralization with acid. Spray residue of small spills with plenty of water. Sodium Nitrite CERCLA reportable quantity (RQ) is 100 lbs., for Sodium Hydroxide, RQ is 1000 lbs.

7. HANDLING AND STORAGE

Handling: Avoid contact. Do not touch face or eyes when handling. **Storage:** When not in use keep container closed. Store in a cool dry location.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: Good general ventilation. **Eye Protection:** Chemical goggles with face shield. **Skin Protection:** Neoprene or natural rubber gloves, **Respiratory Protection:** Use only NIOSH/MSHA approved respiratory protection if exposure guideline might be exceeded. **Other Protective Equipment:** As required to minimize skin contact. Eye wash, safety shower, **Exposure Guidelines:** Sodium Hydroxide TWA: 2 mg/m^3 , Sodium Tetraborate Decahydrate PEL: 10 mg/m^3, TLV: 5 mg/m^3

9. PHYSICAL AND CHEMICAL PROPERTIES (Typical)

Softening Point: 120 to 130℉, **Appearance and Odor:** Tan to brown amorphous solid, slight characteristic odor. **Bulk Density:** Approx. 1lb/stick. **Solubility in H_20:** Complete but dissolve slowly. **pH (1% solution):** 12

10. STABILITY AND REACTIVITY

Chemical Stability: Stable, **Conditions to Avoid:** Contact with strong acids, magnesium, aluminum, zinc, and reducing agents such as cyanides, thiocyanates and thiosulfates. **Hazardous Decomposition Products:** By fire: oxides of carbon, nitrogen and phosphorous. **Hazardous Polymerization:** Will not occur.

11. TOXICOLOGICAL INFORMATION

Toxicology of this product has not been established, however, sodium nitrite is very toxic with an oral LD_{50}(rat) of 80 - 185 mg/kg and an oral TD_{LO}(human) of 22 mg/kg.

12. ECOLOGICAL INFORMATION

Environmental effects of this product have not been established.

13. DISPOSAL CONSIDERATIONS

Dispose of in an approved hazardous waste container. Disposer must comply with local state and federal regulations with respect to disposal or discharge.

14. TRANSPORT INFORMATION

DOT Description: Corrosive Solid, Oxidizing, N.O.S., 8, UN3084, II, (Contains Sodium Nitrite)

15. REGULATORY INFORMATION

All components are listed on the TSCA Inventory.

16. OTHER INFORMATION

Hazard Ratings: HMIS: Health - 2, Flammability - 0, Reactivity - 0, Protective Equipment: C. **NFPA:** Health - 2, Flammability - 0, Reactivity - 0.

The above information is based on data available to us and is believed to be correct. However no warranty, merchantability, fitness for any use or any other warranty is expressed or to be implied regarding the accuracy of these data, the result to be obtained from the use thereof, the hazards connected with the use of the material, or that any such use will not infringe any patent. Since the information contained herein may be applied under conditions beyond our control and with which we may be unfamiliar, we do not assume any responsibility resulting from its use. This information is furnished upon the condition that the person receiving it shall make his own determination for the suitability of the material for his particular purpose. 8 1 06