MATERIAL SAFETY DATA SHEET

CAUSTIC SODA 50%

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MANUFACTURER: Distributed by Tarr, Incorporated
P. O. Box 12570

Portland, OR 97212

INFORMATION PHONE: 503-288-5294

EMERGENCY PHONE: **CHEMTREC 800-424-9300 (US) Day or night**
International Call Collect CHEMTREC 202-483-7616

PRODUCT NAME: **CAUSTIC SODA 50%**

PRODUCT NUMBER: LCS50

UPC NUMBER:

PREPARED BY: Patricia Rodabaugh

DATE PREPARED: 7/17/2003

LAST REVISION: 5/12/2003

SYNONYMS: Liquid Caustic Soda 50%, Sodium Hydroxide 50% Solution, Lye, Sodium Hydrate

Portland, Oregon
Phoenix, Arizona
Auburn, Washington
Vancouver, Washington

Print Date: 10/28/2004

2. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS #	Weight %	OSHA PEL	ACGIH TLV	NOTE
Sodium Hydroxide	1310-73-2	49-51	2mg/m3	2mg/m3	
sodium chloride (NaCl)	007647-14-5	<1.0	Not Established	Not Established	
Sodium Chlorate	7775-09-9	<0.2			

3. HAZARDOUS IDENTIFICATION

EMERGENCY OVERVIEW: DANGER! Corrosive material. Colorless and odorless liquid. Avoid contact with skin or eyes. Avoid breathing vapor. May cause serious burns which may not be immediately painful or visible.

POTENTIAL HEALTH EFFECTS

EYE CONTACT: May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness. Mists may cause eye irritation.

INHALATION: Mists may cause respiratory irritaiton to upper respiratory tract (nose and throat).

INGESTION: May cause severe burns of the mouth and throat. Ingestion may cause gastrointestinal irritation and ulceration.

SKIN CONTACT: Classified as corrosive according to DOT. Short single exposure may cause skin burns. A single prolonged skin exposure is not likely to result in absorption of harmful amounts.

SIGNS AND SYMPTOMS OF EXPOSURE:

Target Organs: Eyes, respiratory system, skin and lungs. As noted above including; severe skin burns with ulceration, pain behind the beastbone, cough, spitting blood, dyspnea, difficulty breathing, bronchopnemonia, cyanosis, shock, jaundice, muscle spasms.

4. FIRST AID MEASURES

EYE CONTACT: Wash eyes immediately and continuously until assistance arrives for transport to medical facility; wash enroute, if possible. If medical assistance is not immediately available, wash for 30 minutes and seek medical attention immediately.

INHALATION: Remove to fresh air if effects occur. Consult a physician.

INGESTION: If swallowed, do NOT induce vomitting. Give victim large amounts of water or milk if available and transport to medical facility.

SKIN CONTACT: Immediate continued and thorough washing in flowing water for 30 minutes is imperative while removing contaminated clothing. Prompt medical consultation is essential.

AGGRAVATED MEDICAL CONDITIONS:

Preexisting eye, skin and respiratory disorders may be aggravated by exposure to this product. Impared function from preexisiting disorders may be aggravated by exposure to this product.

SUPPLEMENTAL HEALTH INFORMATION:

Note to Physician: May cause tissue destruction/stricture. If lavage is performed, suggest endotracheal and/or esophageal control. Material is strong alkali. If burn is present, treat as any thermal burn, after decontamination. For burns of skin only. Eye irrigation may be necessary for an extended period of time to remove as much caustic as possible. Duration of irrigation and treatment is at the discretion of medical personnel. No specific antidote. Supportive care. Treatment based on jugdement of the physician in response to reactions of the patient.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES

FLASH POINT: N/A **FLASH POINT METHOD USED:** N/A

AUTOIGNITION: N/A **LEL:** **UEL:**

EXTINGUISHING MEDIA:

This material does not burn. If exposed to fire from another source, use suitable extinguishing agent for that fire.

SPECIAL FIRE FIGHTING PROCEDURES:

Firefighters should wear proper protective equipment and self-contained breathing apparatus with full facepiece in positive pressure mode. Avoid contact with this material during fire fighting operations. If contact is likely, change to full chemical resistant clothing with SCBA. This will not provide sufficient fire protection, consider fighting fire from a remote location. For protective equipment in post-fire or non-fire clean up situations, refer to the relevant sections. Move containers from fire area if it can be done without risk.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

None identified.

COMBUSTION PRODUCTS:

N/A

6. ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS SPILLED OR RELEASED:

Clear area of unathorized personnel. Wear protective equipment as given in Section 8. Clear non-emergency personnel from area. Ventilate area of spill or leak. Contain material to prevent contamination of soil, surface water or ground water. Dike spills immiately. Carefully flush small spills of caustic soda solution with water. Attempt to neutralize final traces of caustic soda with dilute acid, preferably acetic acid.

7. HANLDING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

SPECIAL PRECAUTIONS FOR DILUTING CAUSTIC SODA SOLUTION: 1. ALWAYS add caustic soda solution to water with constant agitation. NEVER add water to the caustic soda solution. 2. The water should be lukewarm (80 - 100F). NEVER start with hot or cold water. The addition of caustic soda to liquid will cause a rise in temperature. If caustic soda becomes concentrated in one area, is added too rapidly, or is added to hot or cold liquid, a rapid temperature increase can result in DANGEROUS mists, boiling or spattering which may cause an immediate VIOLENT ERUPTION. STORAGE: Store away from incompatible materials. Store in a dry place. Keep containers tightly closed when not in use.

OTHER PRECAUTIONS:

KEEP OUT OF REACH OF CHILDREN! Empty containers retain product residue and can be dangerous. Do not pressurize, cut weld, braze, solder, drill, grind, or expose such containers to heat, flame, organic materials or other incompatable materials.

8. EXPOSURE CONTROL/PERSONAL PROTECTION

RESPIRATORY PROTECTION:

Atmospheric levels should be maintained below the exposure guideline. If exposure may or does exceed occupational exposure limits (Sec. 2) use a NIOSH approved respirator to prevent exposure. If respiratory irritation is experienced, use an approved air-purifying respirator.

VENTILATION:

Provide exhaust ventilation sufficient to keep the airborne concentration of this product below its exposure limits. Exhaust air may need to be cleaned by scrubbers or filters to reduce environmental contamination.

PROTECTIVE GLOVES:

Use protective gloves impervious to this material. Safety shower should be located in immediate work area. Remove contaminated gloves immediately, wash skin area with soap and water and launder clothing before reuse. Contaminated leather items, such as shoes, belts and watchbands should be removed and destroyed.

EYE PROTECTION:

Use chemical safety goggles. Wear a face-shield which allows use of chemical goggles, or wear a full-face respirator to protect face and eyes when there is any likelihood of splashes. Eye wash fountain shold be located in the immediate work area. and/or full face shield where splashing is possible. Contact lenses should not be worn when working with this material. Maintain eye wash fountain and quick-drench facilities in work areas.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT:

Use protective clothing impervious to this material. Safety shower should be located in immediate work area. Remove contaminated clothing immediately, wash skin area with soap and water and launder clothing before reuse. Contaminated leather items, such as shoes, belts and watchbands should be removed and destroyed.

WORK / HYGENIC PRACTICES:

Use good personal hygiene when handling this product. Wash hands after use, before eating, drinking, smoking, or using the toilet.

ENGINEERING CONTROLS:

Facilities storing or utilizing this material should be equipped with and eyewash facility and a safety shower.

EXPOSURE GUIDELINES:

May be harmful or fatal if swallowed. May irritate body tissues. Use with adequate ventillation. Avoid breathing vapor. Do not get in eyes, on skin, on clothing. Wash thoroughly after handling.

9. PHYSICAL AND CHEMICAL PROPERTIES

SOLUBILITY IN WATER: Infinite in water

APPEARANCE AND ODOR: Clear, colorless liquid. Odorless.

BOILING POINT:	239 F, 145 C	**PERCENT VOLATILE:**	50
VAPOR PRESSURE:	0 mmHg	**PH:**	14
EVAPORATION RATE:	Slower than ether	**MOLECULAR WEIGHT:**	40.0
POUNDS PER GALLON:	12.34 - 12.67	**VAPOR DENSITY:**	N/A
SPECIFIC GRAVITY:	1.52 G/ML @20C	**OTHER PROPERTIES:**	
MELTING POINT:	605 F		
FREEZING POINT:	58F		

10. STABILITY AND REACTIVITY

STABILITY: Stable

CONDITIONS TO AVOID: Avoid contact with organics. Avoid temperature below 85F.

INCOMPATIBILITY:

Water; acids; flammable liquids; organic halogens; metals such as aluminum, tin & zinc; nitromethane [Note: Corrosive to metals.] Flammable hydrogen may be generated from contact with metals such as aluminum, brass, tin, zinc. Avoid contact with acids, halogenated organics, organic nitro compounds, glycols. Caustic soda solution reacts readily with various reducing sugars (i.e. fructose, galactose, maltose, dry whey solids) to product carbon monoxide. Precautions should be taken including monitoring the tank atmosphere for carbon monoxide to ensure safety of personnel. Heat is generated when mixed with water. Spattering and boiling can occur.

HAZARDOUS DECOMPOSITION OR BY PRODUCTS:

Does not decompose.

HAZARDOUS POLYMERIZATION: Will Not Occur

CONDITIONS TO AVOID: None identified.

11. TOXICOLOGY INFORMATION

Acute toxicity data for sodium hydroxide: Oral Human: Lowest published lethal dose: 1.57 mg/kg. Effects: Behavioral: Anorexia, Nutritional and Gross Metabolic: Body temperature increase, Skin: After topical application: Primary irritation.

12. ECOLOGICAL INFORMATION

Movement & partitioning: Based on information for sodium hydroxide, no bioconcentration is expected because of the relatively high water solubility. Partitioning from water to n-octanol is not a;;licable. Degradation & persistence: Based on information for sodium hydroxide, biodegradation is not applicable. Ecotoxicity: Based on information for sodium hydroxide, material is slightly toxic to aquatic organisms on an acute basis (LC50 between 10 and 100 mg/L in most sensitive species). May cause hP shifts outside the range of 5-10; this change may be toxic to aquatic organisms.

13. DISPOSAL CONSIDERATIONS

DO NOT DUMP INTO ANY SEWERS, ON THE GROUND OR INTO ANY BODY OF WATER. All disposal methods must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. Tarr, Inc. has no control over the management practices or manufacturing processes of parties handling or using this material. The information presented here pertains only to the product as shipped in its intended conditions as described in MSDS section 2 (Composition/information

14. TRANSPORTATION INFORMATION

DOT Proper Shipping Name:	Sodium Hydroxide, Solution	**PACKING GROUP:**	II
		GUIDE NUMBER:	154
HAZARD CLASS:	8	**DOT CLASS:**	Corrosive Liquid
UN NUMBER:	UN 1824		

15. REGULATORY INFORMATION

All ingredients are on the TSCA inventory or are not required to be listed on the TSCA inventory.

16. OTHER INFORMATON

HMIS INFORMATION: **HEALTH:** 2 **FLAMMABILITY:** 0 **REACTIVITY:** 0 **PROTECTIVE:** X

SARA Title III Information:

SARA 302: To the best of our knowledge, this product is not listed as an extremely hazardous substance.

SARA 311/312: This product should be reported as an immediate (acute) health hazard and a reactive hazard.

SARA 313: To the best of our knowledge, this product is not listed as a toxic chemical.

Additional Information:

CERCLA Reportable Quantity (RQ): 2,000 lbs. or 908 kg.

California Proposition 65: Not Listed. Prop. Dir. List of Haz. Subs.: Listed

N/A = Not Applicable
NDA = No Data Available

Disclaimer

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