



**BRENNTAG MID-SOUTH, INC.**  
**MATERIAL SAFETY DATA SHEET**  
Effective Date: February 14, 2006

**SODIUM HYDROXIDE SOLUTION 4% - 50%**

**SECTION I - MATERIAL IDENTIFICATION**

**MANUFACTURER'S NAME & ADDRESS:**

**Brenntag Mid-South, Inc.**  
1405 Highway 136 West / Geneva Road  
Henderson, Kentucky 42420

**EMERGENCY TELEPHONE NUMBER:**

**270-830-1222**

**CHEMICAL NAME AND SYNONYMS:** Caustic Soda 4-50% Solution, Degussa Caustic 10%, all grades

**CHEMICAL FAMILY:** Alkalies

**FORMULA:** Mixture

**SECTION II - HAZARDOUS INGREDIENTS**

CAS NUMBER	CHEMICAL NAME (S)	Wt. %	THRESHOLD LIMIT VALUES (UNITS)			
			OSHA:		ACGIH:	
			PEL	STEL	TLV	STEL
1310-73-2	Sodium hydroxide	4 - 50	----	2 mg/m <sup>3</sup> ceiling	----	2 mg/m <sup>3</sup> ceiling
7732-18-5	Water	50 -96	None listed			

\*\*This product does not contain any chemical (s) subject to reporting requirements of Section 313, Title III of SARA, Part 372.

**SECTION III - PHYSICAL DATA**

**BOILING POINT °F (°C):** 212 - 290 °F (100 - 143 °C)

**SPECIFIC GRAVITY (H<sub>2</sub>O=1):** 1.04 - 1.52 @ 60 °F

**VAPOR DENSITY (AIR =1):** Water Vapor Only

**PERCENT VOLATILE BY VOLUME (%):** 50 - 96%

**VAPOR PRESSURE (mmHg):** 150 °F/66 °C 19 mmHg

**EVAPORATION RATE:** (Butyl Acetate = 1) 0.33

**SOLUBILITY IN WATER:** Complete

**APPEARANCE AND ODOR:** Clear to slightly turbid liquid, colorless to slightly gray colored, slight to no odor.

**SECTION IV - FIRE AND EXPLOSION HAZARD DATA**

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

**FLAMMABLE LIMITS (% BY VOLUME):** N/A

**EXTINGUISHING MEDIA:** Avoid direct contact of liquid caustic with water.

**SPECIAL FIRE FIGHTING PROCEDURES:** Wear proper protective equipment for fighting fires. Use water to cool fire exposed containers.

**UNUSUAL FIRE AND EXPLOSION HAZARDS:** Contact with reactive metals can generate hydrogen, which is explosive. Caution: Caustics may react violently with acids and water.



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**SECTION V - HEALTH HAZARD DATA**

**EFFECTS OF OVEREXPOSURE:**

**INHALATION:** Inhalation of this material is irritating to the nose, mouth, and lungs. It may also cause burns to the respiratory tract that can result in shortness of breath, wheezing, choking, chest pain, and impairment of lung function. Inhalation of high concentrations can result in permanent lung damage. Repeated inhalation exposure may cause impairment of lung function and permanent lung damage.

**EYE CONTACT:** Severe irritation and/or burns can occur. Contact may cause impairment of vision and corneal damage.

**SKIN CONTACT:** Exposure can cause severe irritation and/or burns characterized by redness, swelling, and scab formation. Prolonged skin exposure may cause destruction of the dermis with impairment of the skin at site of contact to regenerate.

**INGESTION:** Irritation and/or burns can occur to the entire gastrointestinal tract, including the stomach and intestines, characterized by nausea, vomiting, diarrhea, abdominal pain, bleeding, and/or tissue ulceration.

**PRIMARY ROUTES OF ENTRY:** Inhalation and skin contact.

**CHEMICAL LISTED AS CARCINOGEN OR POTENTIAL CARCINOGEN:** NTP/No IARC/No OSHA/No

**EMERGENCY AND FIRST AID PROCEDURES:**

**INHALATION:** Remove victim to fresh air. Give artificial respiration if not breathing. Obtain medical attention.

**EYE CONTACT:** Immediately flush with large amounts of water while holding eyelids open. Get immediate medical attention.

**SKIN CONTACT:** Flush skin with plenty of water while removing contaminated clothing. Continue flushing until slick skin feeling is gone. Get medical attention for irritation and/or burns.

**INGESTION:** Do NOT induce vomiting. It is important to get immediate medical attention.

**SECTION VI - TOXICOLOGICAL INFORMATION**

**TOXICITY DATA:** ACUTE TOXICITY: Inhalation LC50: no data; Oral (rat) LD50 believed to be 300 – 500 mg/kg – harmful if swallowed. Dermal (rabbit) LD50 Delivered to be > 2 g/kg; Irritation: Causes burns to eyes and skin. This product is corrosive to all tissues contacted and upon inhalation, may cause irritation to mucous membranes and respiratory tract. There are no known or reported effects from repeated exposure except that secondary to burns. There are no known or reported effects on reproductive function or fetal development from exposure to this product.

This product is not known or reported to be carcinogenic by any reference source including IARC, OSHA, NTP, or EPA. Ingestion of massive doses of sodium hydroxide has led to the development of tumors of the esophagus. The relevance of these findings to cancer is unknown due to repeated tissue destruction and scar formation as a result of the corrosive nature of sodium hydroxide.

Sodium hydroxide has been tested and was found to be non-mutagenic in the Ames assay, a bacterial DNA-repair test and in the Syrian hamster embryo (SA7/SHE) cell transformation assay.



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**SECTION VII – ECOLOGICAL INFORMATION**

**AQUA TOXICITY:** Caustic soda is not lethal to fully developed fish in natural fresh waters until the pH becomes greater than 9.0: Lethal pH for Gold fish: 10.9; Lethal pH for Bluegill sunfish: 10.5;

Gambusia affinis (mosquito fish), 96 hr. LC50: 125 mg/l, Bluegill, 48 hr. LC50: 99 mg/l

**SECTION VIII - REACTIVITY DATA**

**STABILITY:** Stable

**HAZARDOUS POLYMERIZATION:** Will not occur.

**CONDITIONS TO AVOID:** Dilution (the higher the strength of this material the more heat generated with dilution) with water except under controlled conditions.

**INCOMPATIBILITY (MATERIALS TO AVOID):** Organic materials, acids, magnesium, aluminum, zinc, tin, chromium, brass, bronze, and various sugars.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Will not occur.

**SECTION IX - SPILL OR LEAK PROCEDURES**

**STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:** Spills and releases may have to be reported to federal and/or local authorities. Proper protective equipment should be worn. Contain spill and dilute with large amounts of water. Neutralize with dilute acid to a pH between 6 & 9. Collect and dispose according to Federal, State, and Local regulations.

**WASTE DISPOSAL METHOD:** If this product becomes a waste, it meets the criteria of a hazardous waste as defined under 40CFR 261 and would have the following EPA hazardous waste number: D002. Dispose at an appropriate waste management facility in accordance with Federal, State, and Local regulations. Care must be taken to prevent environmental contamination from the use of this material. The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous waste.

**SECTION X - SPECIAL PROTECTION INFORMATION**

**RESPIRATORY PROTECTION:** Wear NIOSH approved respirators when necessary.

**VENTILATION:** Local exhaust is preferable. Mechanical (general) exhaust as required to maintain concentration below permissible levels.

**PROTECTIVE GLOVES:** Rubber.

**EYE PROTECTION:** Chemical goggles with face shield.

**OTHER PROTECTIVE EQUIPMENT:** Wear protective clothing to prevent skin contact. Eye wash fountain and safety shower.



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**SECTION XI - SPECIAL PRECAUTIONS**

**PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:** Store in a dry, well ventilated area away from incompatible materials.

Freezing point (°C) for 20% = -32°C (-25.6°F); for 30% = 0°C (32°F); for 40% = 15°C (59°F) & 50% = 12°C (53.6°F)

**OTHER PRECAUTIONS:** May react with various metals producing hydrogen gas that is explosive. Do not get in eyes, on skin or clothing. Do not breathe mist. Use with adequate ventilation. Wash hands thoroughly after handling.

**HAZARD RATING:** Health 3 Flammability 0 Reactivity 1

**SECTION XII - D.O.T. SHIPPING INFORMATION**

**PROPER SHIPPING NAME:** Sodium Hydroxide Solution

**HAZARD CLASS:** 8 (Corrosive material)

**UN/NA:** UN 1824

**PACKING GROUP:** II

**D.O.T. LABEL REQUIRED:** Corrosive

**REPORTABLE QUANTITY OF PRODUCT:** 1000 Pounds (100% basis)

**SECTION XIII - REGULATORY INFORMATION**

TSCA (Toxic Substance Control Act): All components of this product are listed on the TSCA inventory.

CANADA DSL: This product and/or all of its components are listed on the Canadian DSL.

SARA TITLE III: SARA (311,312) HAZARD CLASS: Acute health hazard, Reactive Hazard

NAME	CAS/313 Category Codes	Section 302 (EHS) TPQ	Section 304 EHS RQ	CERCLA RQ	Section 313	RCRA CODE	CAA 112(R) TQ
None	None	None	None	None	None	None	None

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PREPARED BY

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APPROVED BY

FORMAT REVISION DATE: April 23, 2001

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