

# MATERIAL SAFETY DATA SHEET

PAGE #: 1 OF 4

PRODUCT NAME: CS-111

MSDS NUMBER: 40302CS111

PRODUCT CODE: ALKALINITY BUILDER

MSDS DATE: 4/03/02

KEY NUMBER: CS-111

EMERGENCY PHONE #'s: 800-255-3924 (CHEMTEL)



## Advanced Chemical Technology, Inc.

10743 Edison Court • Rancho Cucamonga, CA 91730 USA

Ph: 1-800-527-9607 / Fax: 1-909-980-9366

Web: <http://www.actglobal.net> Email: [act@actglobal.net](mailto:act@actglobal.net)

<b>HEALTH</b>	<b>3</b> Extreme Danger
<b>FIRE</b>	<b>0</b> Will Not Burn
<b>REACTIVITY</b>	<b>1</b> Unstable if Heated
<b>SPECIFIC</b>	Corrosive - COR

### 1. IDENTIFICATION

See Addendum: Ref. PAGE:

**Chemical Name:** CS-111

**Chemical Family:** Alkali hydroxide

**CAS #:** 1310-73-2

**Chemical Formula:** NaOH in water

**CAS Name:** Sodium Hydroxide Solution, 50%

**Molecular Weight:** 40.01

**Synonyms / Common Name:** Caustic soda, sodium hydrate, lye, alkalinity builder

**DOT Information:** CORROSIVE

### 2. PHYSICAL DATA

See Addendum: Ref. PAGE:

**Appearance:** Clear- slightly turbid liquid

**Color:** Colorless

**State:** Liquid

**Odor Characteristics:** None

**pH:** 14.0 (Aqueous Solution 5%)

**Viscosity:** 78.3 cps @ 68 F

**Specific Gravity (Water = 1):** 1.53

**Vapor Density (Air = 1):** NA

**Vapor Pressure:** 1.5 mm Hg @ 68 F

**Melting Point:** 54 F

**Boiling Point:** 284 F

**Flash Point:** None

**Freezing Point:** 54 F

**Percent Volatility:** ND

**Evaporation Rate (BAc = 1):** NA

**Solubility in Water:** Complete in all proportions

**Solubility in Oil:** ND

**Solubility in Acetone:** ND

### 3. INGREDIENTS - HAZARDOUS

See Addendum: Ref. PAGE:

Material / Components	CAS #:	CAS Name	TLV Units	Approx. %
Sodium Hydroxide (50%)	1310-73-2	Sodium Hydroxide	2 mg/m3	50

### 4. FIRE AND EXPLOSION HAZARD DATA

See Addendum: Ref. PAGE:

**Flash Point:** None

**Flammable Limits in Air % by volume:** Lower NA  
Upper NA

**Extinguishing Media:** Use extinguishing media suitable for the surrounding fire. If water is used, care should be taken, since it can generate heat and cause spattering if applied directly to sodium hydroxide.

**Special Fire Fighting Procedures:** Keep container cool with water spray. Firefighters should wear self-contained breathing apparatus and chemical resistant clothing (e.g. chemical splash suit).

**Unusual Fire & Explosion Hazards:** Fight fire from a safe distance or protected location. At high temperatures, fuming may occur giving off a strong corrosive gas. Sodium hydroxide can react with metals, such as aluminum, tin and zinc, to form flammable hydrogen gas.

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**5. HEALTH HAZARD DATA** See Addendum:

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**Threshold Limit Value:** Sodium Hydroxide: 2 mg/m3**Effects of Overexposure:****Inhalation:** May cause severe irritation or burns of the respiratory system, pulmonary edema, or lung inflammation.**Skin Contact:** EXTREMELY CORROSIVE. Causes serious burns to the skin.**Eye Contact:** EXTREMELY CORROSIVE. Damage can range from severe irritation and mild scarring to blistering, disintegration, ulceration, severe scarring, and clouding. Severe cases may lead to permanent blindness.**Ingestion:** Severe pain: burning of the mouth, throat and esophagus, vomiting, diarrhea, collapse and possible death may result.**Delayed Effects:** SKIN: Repeated or prolonged skin contact would be expected to cause drying, cracking, and inflammation of the skin (dermatitis).**Medical Conditions Aggravated by Exposure:** Asthma, bronchitis, emphysema and other lung diseases and chronic nose, sinus or throat conditions. Skin irritation may be aggravated in individuals with existing skin disorders.**6. FIRST AID MEASURES** See Addendum:

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**Inhalation:** If breathing stops, give artificial respiration. Do not use mouth to mouth if victim has ingested or inhaled the substance. Utilize a pocket mask w/ oneway valve or other proper respiratory medical device. CALL A PHYSICIAN**Skin Contact:** Immediately remove clothing under a safety shower. Flush all affected areas with large amounts of water for at least 20 minutes and upward to 60 minutes is recommended. If irritation persists, repeat flushing.**Eye Contact:** Immediately flush eyes with running water for a minimum of 20 minutes and upward to 60 minutes is recommended. Obtain medical attention IMMEDIATELY. Do not transport victim until the recommended flushing period is completed.**Ingestion:** Do not induce vomiting. If conscious, immediately give large quantities of water. Transport victim to an emergency facility.**NOTES TO PHYSICIAN:** None.**7. REACTIVITY DATA** See Addendum:

PAGE #:

**Stability:** Stable at room temperature.**Incompatibility: (materials to avoid)** Sodium hydroxide reacts violently or explosively with many organic and inorganic chemicals, such as strong acids, nitroaromatic, nitroparaffin, and organohalogen compounds, glycols, and organic peroxides. Reacts violently with water.**Hazardous Combustion or Decomposition Products:** Thermal Decomposition: Sodium Oxide.**Hazardous Polymerization:** Will not occur.**Conditions to Avoid:** Do not mix with other industrial chemicals or incompatibles.**8. SPILL OR LEAK PROCEDURES** See Addendum:

PAGE #:

**Actions to take for Leaks & Spills:** Wear proper protective clothing. For small spills mop or wipe up. For large spills, contain by diking with soil or other absorbent material. Keep out of sewers, drains, surface waters, and soil.**Waste Disposal Method:** Dilute acid (preferably acetic acid) may be used to neutralize the final traces immediately after flushing. Use D.O.T. approved containers for waste disposal. Dispose of all waste according to Federal, State, and Local regulations.



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**9. SPECIAL PROTECTION INFORMATION**

See Addendum:

Ref. PAGE:

**Respiratory Protection:** NIOSH approved full facepiece respirator in the absence of adequate environmental controls at the point of use.

**Eye Protection:** Wear full face-shield and chemical goggles when there is potential for contact.

**Skin Protection:** Wear appropriate personal protective clothing to prevent skin contact. Rubber gloves (natural rubber, butyl rubber, neoprene, nitrile, polyethylene, polyvinyl chloride, Teflon, Viton).

**Other Clothing:** Rubber apron and protective clothes to prevent skin contact. See material selection listed above..

**Other Equipment:** An eyewash and safety shower should be nearby and ready for use.

**Engineering Controls:** Normal

**10. HANDLING AND STORAGE**

See Addendum:

Ref. PAGE:

**Special Precautions:** Do not get in eyes, on skin, or on clothing. Wash hands thoroughly after use. Never add water to a caustic.

**Other Precautions:** Avoid freezing. Do not expose sealed containers to temperatures above 104 F. Store away from incompatible materials.

**11. REGULATORY INFORMATION**

See Addendum:

Ref. PAGE: 4

**Workplace Classification:** SAF-T-DATA(TM) Storage color code: WHITE STRIPE (Store separately)

**12. TOXICOLOGICAL INFORMATION**

See Addendum:

Ref. PAGE:

**Acute Data:** ND

**Reproductive / Teratology Data** No information is available and no adverse reproductive effects are anticipated. No information is available and no adverse teratogenic/embryotoxic effects are anticipated.

**13. ECOLOGICAL INFORMATION**

See Addendum:

Ref. PAGE:

**Fate in the Environment:** Degrades readily by reacting with natural carbon dioxide in the air. Does not bioaccumulate.

**14. DISPOSAL CONDITIONS**

See Addendum:

Ref. PAGE:

**Procedures:** Dispose of all waste according to Federal, State, and Local regulations.

**15. TRANSPORTATION INFORMATION**

See Addendum:

Ref. PAGE:

**DOT Classification:** CAUSTIC LIQUID, N.O.S., 8  
UN 1824, PG II  
(Sodium Hydroxide, Solution 50%)

**Warning Labels:** CORROSIVE



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**ADDENDUM for Section - 11. REGULATORY INFORMATION - Ref. Pg. 3**

OSHA Classification: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200)

CERCLA Status: This product contains 50% sodium hydroxide, which if released to the environment in quantities of 1000 lbs. or greater, 100% basis, notification must be made to the National Response Center in Washington D.C. at 1-800-424-8802.

SARA/Title III- Section 304 Emergency notification reporting. This product contains a Section 304 listed hazardous substance for emergency release notification.

SARA/Title III- Section 302 Emergency Planning Notification/Threshold Planning Quantities: No (X) Yes ( )

SARA/Title III- Section 311/312 Hazardous categories: Immediate (acute) health hazards.

SARA/Title III- Section 313 Toxic chemical release reporting. This product does not contain a Section 313 listed toxic chemical subject to release reporting requirements.

WHMIS Ingredient Disclosure List: Meets criteria for disclosure at 1% or greater.

TSCA Inventory Status- All chemical components are listed on TSCA Inventory.

California Proposition 65 Status- This product does not contain chemicals currently on the California list of known carcinogens and/or reproductive toxins.

**ADDENDUM for Section - Other Information**

NA = Not Applicable  
ND = Not Determined  
NE = Not Established

The information contained herein is provided in good faith and is believed to be correct as of the date hereof. However, Advanced Chemical Technology makes no representation as to the comprehensiveness or accuracy of the information. It is expected that individuals receiving the information will exercise their independent judgement in determining its appropriateness for a particular purpose. Accordingly, Advanced Chemical Technology will not be responsible for damages of any kind resulting from the use of or reliance upon such information. No representations, or warranties, either expressed or implied or merchantability fitness for a particular purpose or of any other nature are made hereunder with respect to the information set forth herein or to the product to which the information refers.

**ADDENDUM for Section -**