



MATERIAL SAFETY DATA SHEET

LIGNOSPAN STD/FORTE, P. 1

PRODUCT/MATERIAL: LIGNOSPAN STANDARD & (LIDOCAINE) LIGNOSPAN FORTE

GENERAL INFORMATION

Manufacturer/Distributor:
SEPTODONT INC.
 P.O. BOX 11926
 Wilmington, DE 19850-1926
 245 Quigley Blvd., Suite C
 New Castle, DE 19720

Emergency Phone Number: (202) 625-3333 or (302) 328-1102
Telephone For Information: (302) 328-1102

SECTION I - PRODUCT IDENTIFICATION

COMMON NAME: Lidocaine
SYNONYMS: n/a
CHEMICAL NAME: 2-(diethylamino)-N-(2,6-dimethylphenyl)-acetamide
CHEMICAL FAMILY: Local anesthetic, antiarrhythmic
FORMULA: C14H22N2O
CAS NO.: 137-58-6
ATC NO.: AM7525000

SECTION II - HAZARDOUS COMPONENTS

NAME	PERCENT	TLV
Lidocaine	Pure Material	Not Established

SECTION III - PHYSICAL CHARACTERISTICS

BOILING POINT: n/a **VAPOR PRESSURE:** n/a (mm Hg)
MELTING POINT: n/a **VAPOR DENSITY:** n/a (Air = 1)
SPECIFIC GRAVITY: n/a (H₂O = 1) **EVAPORATION RATE:** n/a
SOLUBILITY (H₂O): Insoluble **PERCENT VOLATILE BY VOLUME:** n/a
REACTIVITY (H₂O): n/a **APPEARANCE AND ODOR:** White crystalline powder, characteristic odor

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: n/a
FLAMMABLE LIMITS: Lower n/a Upper n/a (In Air % by Volume)
EXTINGUISHER MEDIA: Water spray, dry chemical, carbon dioxide or foam as appropriate for surrounding fire and materials
SPECIAL FIRE FIGHTING PROCEDURES: As with all fires, evacuate personnel to safe area. Firefighters should use self-contained breathing equipment and protective clothing.
UNUSUAL FIRE AND EXPLOSION HAZARDS: This material is assumed to be combustible. As with all dry powders it is advisable to ground mechanical equipment in contact with dry material to dissipate the potential buildup of static electricity. When heated to decomposition material emits toxic fumes. Emits toxic fumes under fire conditions.

August 16, 1994

SECTION V - REACTIVITY DATA

STABILITY: Stable X Unstable _____
CONDITIONS TO AVOID: Material is stable from a safety point of view.
INCOMPATIBILITY: (Materials to avoid): Strong oxidizing agents
HAZARDOUS DECOMPOSITION PRODUCTS: When heated to decomposition material emits toxic fumes. Emits toxic fumes under fire conditions.
HAZARDOUS POLYMERIZATION: May occur _____ Will not occur X

SECTION VI - HEALTH HAZARDS

TOXICITY: n/a
EFFECTS OF OVEREXPOSURE: Possible allergic reaction to dust if inhaled, ingested or in contact with skin. Local anesthesia, central nervous system reactions (i.e., excitatory and/or depressant), nervousness, dizziness, blurred vision, tremors, drowsiness, convulsions, unconsciousness, possible cardiac arrest.
ACUTE: Eye, skin and/or respiratory tract irritation, convulsions, dizziness or lightheadedness, drowsiness, unusually slow heartbeat, difficulty in breathing, itching, skin rash, unusual swelling
CHRONIC: Possible hypersensitization
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Hypersensitivity to the material. Existing cardiac conditions.
EMERGENCY AND FIRST AID PROCEDURES: Remove from exposure. Remove contaminated clothing. Persons developing serious hypersensitivity reactions must receive immediate medical attention. Upon eye or skin contact, flush affected area with copious quantities of water. Obtain medical attention. If not breathing give artificial respiration. If breathing is difficult give oxygen.
THRESHOLD LIMIT VALUE: Not established
OSHA PERMISSIBLE EXPOSURE LIMIT: Not established
OTHER EXPOSURE LIMIT: Not established
CHEMICAL LISTED AS CARCINOGEN OR POTENTIAL CARCINOGEN:

	Yes	X	No
National Toxicology Program	_____	_____	_____
I.A.R.C. Monographs	_____	_____	_____
OSHA	_____	_____	_____
OTHER	_____	_____	_____

SECTION VII - SPILL AND LEAK PROCEDURES

STEPS TO BE TAKEN IN EVENT OF SPILL OR RELEASE: Wear approved respirator and chemically compatible gloves. Vacuum or sweep up spillage. Avoid dust. Place spillage in appropriate container for waste disposal. Wash contaminated clothing before reuse. Ventilate area and wash spill site.
WASTE DISPOSAL METHODS: Dispose of waste in accordance with all applicable Federal, State and local laws.
EPA HAZARDOUS WASTE NO.: n/a

SECTION VIII - PROTECTION INFORMATION

RESPIRATORY: NIOSH approved respirator
VENTILATION: Adequate, local exhaust and mechanical recommended
GLOVES: Impervious rubber
EYE/SKIN PROTECTION: Safety goggles

SECTION IX - SPECIAL PRECAUTIONS

STORAGE AND HANDLING: Store in tight container as defined in the United States Pharmacopeia. This material should be handled and stored per label and other instructions to ensure product integrity.
OTHER PRECAUTIONS: Avoid contact with eyes, skin or clothing. Avoid breathing dust or mist. Use with adequate dust control. Wash thoroughly after handling. Wear fresh clothing daily. Wash contaminated clothing before reuse. Do not permit eating, drinking or smoking near material.
 This MSDS is only complete when the following data sheets are attached: Lidocaine Hydrochloride, Epinephrine Bitartrate, Sodium Chloride, Potassium Metabisulfite, Edetate Disodium, and Sodium Hydroxide.

DISCLAIMER

Information and statements contained in this document have been obtained from manufacturers, suppliers and recognized reference sources as provided to or obtained by SEPTODONT, Inc. SEPTODONT, Inc. believes the information to be reliable but expressly disclaims any liability for providing such information and toxicological data to our customers.

MATERIAL SAFETY DATA SHEET

SECTION V - REACTIVITY DATA

Epinephrine Bitartrate
Substance August 16, 1994
Data Prepared

SEPTODONT, Inc.
245 Quigley Blvd., Suite C
New Castle, DE 19720
Emergency Telephone Number:
(302) 328-1102

U.S. Distributor for
Specialites Septodont, Saint Maur des Fosses, France

STABILITY: Stable X Unstable _____
CONDITIONS TO AVOID: Material is stable from a safety point of view.

INCOMPATIBILITY:
(Materials to avoid): Strong oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS: When heated to decomposition material emits toxic fumes. Emits toxic fumes under fire conditions.

HAZARDOUS POLYMERIZATION: May occur _____ Will not occur X

SECTION I - PRODUCT IDENTIFICATION

COMMON NAME: Epinephrine Bitartrate

SYNONYMS: n/a

CHEMICAL NAME: 1,2-benzenediol, 4-[[1-hydroxy-2-(methylamino)]-(R), (R-(R*,R*)-2,3-dihydroxybutane-dioate (1:1)] (salt); 4-[[1-hydroxy-2-(methylamino)ethny]]-1,2-benzenediol

CHEMICAL FAMILY: Sympathomimetic

FORMULA: C9H13NO3.C4H6O6

CAS NO.: 51-42-3

RTEC NO.: D03500000

SECTION VI - HEALTH HAZARDS

TOXICITY: n/a

EFFECTS OF OVEREXPOSURE: Possible allergic reaction to dust if inhaled, ingested or in contact with skin. Dermatitis, nausea, vomiting, nervousness, dilated pupils, pounding heart.

ACUTE: Eye, skin and/or respiratory tract irritation

CHRONIC: Possible hypersensitization

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Hypersensitivity to material, dermatitis, cardiovascular disease, hyperthyroidism

EMERGENCY AND FIRST AID PROCEDURES: Remove from exposure. Remove contaminated clothing. Persons developing serious hypersensitivity reactions must receive immediate medical attention. Upon eye or skin contact, flush affected area with copious quantities of water. Obtain medical attention. Ingestion may cause death. Induce vomiting. If not breathing give artificial respiration. If breathing is difficult give oxygen.

THRESHOLD LIMIT VALUE: Not established

OSHA PERMISSIBLE EXPOSURE LIMIT: Not established

OTHER EXPOSURE LIMIT: Not established

CHEMICAL LISTED AS CARCINOGEN OR POTENTIAL CARCINOGEN:

National Toxicology Program	_____	Yes	<u>X</u>	No
I.A.R.C. Monographs	_____	Yes	<u>X</u>	No
OSHA	_____	Yes	<u>X</u>	No
OTHER	n/a	_____	Yes	_____

SECTION VII - SPILL AND LEAK PROCEDURES

STEPS TO BE TAKEN IN EVENT

OF SPILL OR RELEASE: Wear approved respirator and chemically compatible gloves. Vacuum or sweep up spillage. Avoid dust. Place spillage in appropriate container for waste disposal. Wash contaminated clothing before reuse. Ventilate area and wash spill site.

WASTE DISPOSAL METHODS: Dispose of waste in accordance with all applicable Federal, State and local laws.

EPA HAZARDOUS WASTE NO.: n/a

SECTION II - HAZARDOUS COMPONENTS

NAME	PERCENT	TLV
Epinephrine Bitartrate	Pure Material	Not Established

SECTION III - PHYSICAL CHARACTERISTICS

BOILING POINT: n/a	VAPOR PRESSURE: n/a (mm HG)
MELTING POINT: n/a	VAPOR DENSITY: n/a (Air = 1)
SPECIFIC GRAVITY: n/a (H2O = 1)	EVAPORATION RATE: n/a
SOLUBILITY (H2O): Freely soluble	PERCENT VOLATILE BY VOLUME: n/a
REACTIVITY (H2O): n/a	APPEARANCE AND ODOR: White or grayish white or light brownish gray crystalline powder, odorless

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: n/a

FLAMMABLE LIMITS: Lower n/a Upper n/a
(In Air % by Volume)

EXTINGUISHER MEDIA: Water spray, dry chemical, carbon dioxide or foam as appropriate for surrounding fire and materials

SPECIAL FIRE FIGHTING PROCEDURES: As with all fires, evacuate personnel to safe area. Firefighters should use self-contained breathing equipment and protective clothing.

UNUSUAL FIRE AND EXPLOSION HAZARDS: This material is assumed to be combustible. As with all dry powders it is advisable to ground mechanical equipment in contact with dry material to dissipate the potential buildup of static electricity. When heated to decomposition material emits toxic fumes. Emits toxic fumes under fire conditions.

SECTION VIII - PROTECTION INFORMATION

RESPIRATORY: OSHA approved respirator

VENTILATION: Adequate, local exhaust and mechanical recommended

GLOVES: Rubber

EYE/SKIN PROTECTION: Safety goggles

SECTION IX - SPECIAL PRECAUTIONS

STORAGE AND HANDLING: Store in tight container as defined in the United States Pharmacopeia. This material should be handled and stored per label and other instructions to ensure product integrity.

OTHER PRECAUTIONS: Avoid contact with eyes, skin or clothing. Avoid breathing dust or mist. Use with adequate dust control. Wash thoroughly after handling. Wear fresh clothing daily. Wash contaminated clothing before reuse. Do not permit eating, drinking or smoking near material.

MATERIAL SAFETY DATA SHEET

Sodium Chloride
Substance
SEPTODONT, Inc.
245 Quigley Blvd., Suite C
New Castle, DE 19720

AMMUN 14, 1994
Date Prepared
Emergency Telephone Number:
(302) 328-1102

SECTION VI - HEALTH HAZARDS

TOXICITY: 10 MG/24 hours skin-rabbit mild irritation; 100 MG/24 hours eye-rabbit severe irritation; 100 MG/KG oral-rat LD50; 4000 MG/KG oral-mouse LD50; 1500 MG/KG subcutaneous-rat LDLO; reproductive effects data (RTECS): carcinogen status: None.

EFFECTS OF OVEREXPOSURE:

ACUTE: Inhalation: Inhalation of crystals or powder may produce irritation and coughing. SKIN Contact: Corrosive; Sensitizer. Direct contact may dissolve the skin, forming ulcers with hard edges, which heal slowly. Eye Contact: Irritant. Solid particles may cause redness, pain and irritation. Ingestion: Ingestion of large doses may cause nausea, vomiting, muscular twitching, rigidity, convulsions and prostration. In infants this can progress to coma, convulsions and death. Dehydration and congestion occur in most internal organs, particularly the meninges and brain.

CHRONIC: Inhalation: May cause mucous membrane irritation. SKIN Contact: Repeated or prolonged exposure may cause sensitization dermatitis or severe eczematous with edema and slow healing ulcers. Eye Contact: May cause conjunctivitis.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: n/a

EMERGENCY AND FIRST AID PROCEDURES: Inhalation: Remove from exposure area to fresh air immediately. If breathing has stopped, give artificial respiration. Maintain airway and blood pressure and administer oxygen if available. Keep affected person warm and at rest. Administration of oxygen should be performed by qualified personnel. Get medical attention immediately. SKIN Contact: Remove contaminated clothing and shoes immediately. Wash affected area with soap or mild detergent and large amounts of water until no evidence of chemical remains (approximately 15-20 minutes). Get medical attention immediately. Eye Contact: Wash eyes immediately with large amounts of water, occasionally lifting upper and lower lids, until no evidence of chemical remains (approximately 15-20 minutes). Get medical attention immediately. Ingestion: If victim is conscious, give him large quantities of water, to dilute the alkali. Do not induce vomiting.

THRESHOLD LIMIT VALUE: n/a

OSHA PERMISSIBLE EXPOSURE LIMIT: n/a

OTHER EXPOSURE LIMIT: n/a

CHEMICAL LISTED AS CARCINOGEN OR POTENTIAL CARCINOGEN: n/a

National Toxicology Program	Yes	No
I.A.R.C. Monographs	Yes	No
OSHA	Yes	No
OTSEA	Yes	No

SECTION I - PRODUCT IDENTIFICATION

COMMON NAME: Sodium Chloride
SYNONYMS: Buffer Solution
CHEMICAL NAME: Sodium Chloride
CHEMICAL FAMILY: n/a
FORMULA: Na-Cl
CAS NO.: 7647-14-5
RTEC NO.: n/a

SECTION II - HAZARDOUS COMPONENTS

NAME	PERCENT	TCV
Sodium Chloride	>14	n/a

SECTION III - PHYSICAL CHARACTERISTICS

BOILING POINT: 100 C	VAPOR PRESSURE: 14mm Hg (6mm HG)
MELTING POINT: 0 C	VAPOR DENSITY: .7 (Water) (Air = 1)
SPECIFIC GRAVITY: 1 - 1.13 (20 = 1)	EVAPORATION RATE: >1 (TTE)
SOLUBILITY (20): Miscible	PERCENT VOLATILE BY VOLUME: n/a
REACTIVITY (20): n/a	APPEARANCE AND ODOR: Clear, colorless liquid

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: Will not burn
FLAMMABLE LIMITS: Lower n/a Upper n/a
(In Air % by Volume)
EXTINGUISHER MEDIA: Dry chemical, carbon dioxide, water spray or foam 1984 Emergency Response Guidebook, DOT P 5800.3.
SPECIAL FIRE FIGHTING PROCEDURES: Use water spray, fog or alcohol foam 1984 Emergency Response Guidebook, DOT P 5800.3
UNUSUAL FIRE AND EXPLOSION HAZARDS: No acute hazard. Move container from fire area if possible. Avoid breathing vapors or dusts; keep upwind.

SECTION V - REACTIVITY DATA

STABILITY: n/a
CONDITIONS TO AVOID: Avoid heating to the boiling point, 100 C. Avoid contact with or storage with incompatible materials, including those listed in the Incompatibilities section.
INCOMPATIBILITY: (Materials to avoid): Metals; attacked by Sodium Chloride. Building Materials: attacked by Sodium Chloride.
HAZARDOUS DECOMPOSITION PRODUCTS: Thermal decomposition products may include corrosive hydrochloric acid and sodium oxide which can react with water or steam to produce heat, hydrogen and flammable vapors. If heated to dryness and residue is heated further, may yield carbon monoxide and dioxide gases, and leave a caustic residue.
HAZARDOUS POLYMERIZATION: n/a

SECTION VII - SPILL AND LEAK PROCEDURES

STEPS TO BE TAKEN IN EVENT

OF SPILL OR RELEASE: Wear personal protective equipment. Absorb small spills with vermiculite, scoop up, and place in suitable container, e.g., plastic, close tightly and label "corrosive". Dilute large spills as close to spill as practical to minimize environmental contamination. Pump into suitable containers, close tightly, and label "corrosive". Keep out of sewers and water sources.

WASTE DISPOSAL METHODS: See above

EPA HAZARDOUS WASTE NO.: n/a

SECTION VIII - PROTECTION INFORMATION

RESPIRATORY: Routine levels: use mist respirator. High levels: self-contained breathing apparatus with full facepiece. Fire-fighting: self-contained breathing apparatus with a full facepiece operated in pressure-demand or other positive-pressure mode.

VENTILATION: Provide general dilution ventilation.

GLOVES: Employee must wear appropriate protective gloves to prevent contact with this solution, preferred materials: natural, neoprene and nitrile rubbers, and PVC plastic.

EYE/SKIN PROTECTION: Employee must wear splash-proof safety goggles to prevent any possibility of contact with this solution. Do not wear contact lenses when working with chemicals. Clothing: Employee must wear appropriate protective clothing and equipment to prevent any possibility of skin contact with this solution.

SECTION IX - SPECIAL PRECAUTIONS

STORAGE AND HANDLING: n/a

OTHER PRECAUTIONS: n/a

MATERIAL SAFETY DATA SHEET

SECTION VI - HEALTH HAZARDS

Potassium Metabisulfite August 16, 1994
 Substance Date Prepared
 SEPTODONT, Inc. Emergency Telephone Number:
 245 Quagley Blvd., Suite C (302) 328-1102
 New Castle, DE 19720
 U.S. Distributor for
 Specialites Septodont, SAINT MAUR des FOSSÉS, France

TOXICITY: Reproductive effects cited.

EFFECTS OF OVEREXPOSURE: Inhalation: Inhalation of dust may cause respiratory irritation, coughing, and sneezing. Ingestion: Not expected to be a health hazard but large amounts may cause gastrointestinal disturbances due to release of sulfur dioxide. Nausea, vomiting, diarrhea may result. Skin Contact: No adverse effects expected. Eye Contact: No adverse effects expected but dust may cause mechanical irritation. Chronic Exposure: No adverse health effects expected.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: None

EMERGENCY AND FIRST AID PROCEDURES: Inhalation: Remove to fresh air. Get medical attention for any breathing difficulty. Ingestion: If swallowed, induce vomiting immediately by giving two glasses of water and sticking finger down throat. Never give anything by mouth to an unconscious person. Call physician immediately. Skin Exposure: Wash exposed area with soap and water. Get medical advice if irritation develops. Eye Exposure: Wash thoroughly with running water. Get medical advice if irritation develops.

THRESHOLD LIMIT VALUE: n/a

OSHA PERMISSIBLE EXPOSURE LIMIT: n/a

OTHER EXPOSURE LIMIT: n/a

CHEMICAL LISTED AS CARCINOGEN OR POTENTIAL CARCINOGEN: n/a

National Toxicology Program	Yes	No
I.A.R.C. Monographs	Yes	No
OSHA	Yes	No
OTHER	Yes	No

SECTION I - PRODUCT IDENTIFICATION

COMMON NAME: Potassium Metabisulfite
 SYNONYMS: Potassium pyrosulfite, pyrosulfurous acid, dipotassium salt, disulfurous acid
 CHEMICAL NAME: Potassium Metabisulfite
 CHEMICAL FAMILY: n/a
 FORMULA: K₂S₂O₅
 CAS NO.: 16731-55-6
 RTEC NO.: n/a

SECTION II - HAZARDOUS COMPONENTS

NAME	PERCENT	TLV
n/a	n/a	n/a

SECTION III - PHYSICAL CHARACTERISTICS

BOILING POINT: n/a	VAPOR PRESSURE: n/a (mm HG)
MELTING POINT: Decomposes at 150°C (302°F)	VAPOR DENSITY: n/a (Air = 1)
SPECIFIC GRAVITY: (H ₂ O = 1) n/a	EVAPORATION RATE: n/a
SOLUBILITY (H ₂ O): Soluble	PERCENT VOLATILE BY VOLUME: n/a
REACTIVITY (H ₂ O): n/a	APPEARANCE AND ODOR: Transparent, colorless crystals. Sulfur dioxide odor.

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: Not considered to be a fire hazard, however, may ignite in milling, grinding, other conditions of high friction.
 FLAMMABLE LIMITS: n/a
(In Air & by Volume)
 EXTINGUISHER MEDIA: Use any means suitable for extinguishing surrounding fire.
 SPECIAL FIRE FIGHTING PROCEDURES: Use protective clothing and breathing equipment appropriate for the surrounding fire.
 UNUSUAL FIRE AND EXPLOSION HAZARDS: n/a

SECTION V - REACTIVITY DATA

STABILITY: Oxidizes in air to sulfate, more readily in the presence of moisture.
 CONDITIONS TO AVOID: n/a
 INCOMPATIBILITY:
(Materials to avoid): n/a
 HAZARDOUS DECOMPOSITION PRODUCTS: Reaction with acids may release sulfur dioxide.
 HAZARDOUS POLYMERIZATION: May occur _____ Will not occur X

SECTION VII - SPILL AND LEAK PROCEDURES

STEPS TO BE TAKEN IN EVENT OF SPILL OR RELEASE: Ventilate area or leak or spill. Clean-up personnel may require protective clothing and respiratory protection from dust. Spills: Sweep up and containerize for reclamation or disposal. Avoid dust dispersal. Trace residue may be flushed to sewer with large amounts of water. Disposal: Whatever cannot be saved for reclamation may be disposed as hazardous waste in an approved waste disposal facility.

WASTE DISPOSAL METHODS: Ensure compliance with local, state and federal regulations.

EPA HAZARDOUS WASTE NO.: n/a

SECTION VIII - PROTECTION INFORMATION

RESPIRATORY: For conditions of use where exposure to the dust is apparent, a dust/mist respirator may be worn. For emergencies, a self-contained breathing apparatus may be necessary.

VENTILATION: A local exhaust system which captures the contaminant at its source is recommended to prevent dispersion of the contaminant into the workroom air.

GLOVES: Wear protective gloves.

EYE/SKIN PROTECTION: Use chemical safety goggles. Contact lenses should not be worn when working with this material. Maintain eye wash fountain and quick-drench facilities in work area. Contact lenses should not be worn. Clean body-covering clothing should be worn.

SECTION IX - SPECIAL PRECAUTIONS

STORAGE AND HANDLING: Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage.

OTHER PRECAUTIONS: n/a

SECTION IX - SPECIAL PRECAUTIONS

STORAGE AND HANDLING: Precautions: Prevent possible eye and skin contact by wearing protective clothing and equipment. Storage tanks must be vented and diked. Store drums of sodium hydroxide separate from acids, metals and explosives. Provide adequate drainage. When diluting, use agitation and add concentrated caustic to water at a controlled rate to control heat of dilution and to avoid splattering. Do not add water to sodium hydroxide.

HAZARD SAFETY DATA SHEET

Sodium Hydroxide
SubstanceAugust 16, 1994
Date PreparedSEPTODONT, Inc.
243 Quigley Blvd., Suite C
New Castle, DE 19720Emergency Telephone Number:
(302) 328-1102U.S. Distributor for
Specialites Septodont, Saint Maur des Fosses, France

SECTION I - PRODUCT IDENTIFICATION

COMMON NAME: Sodium Hydroxide
SYNONYMS: Caustic Soda; Sodium Hydrate; Lye
CHEMICAL NAME: Sodium Hydroxide
CHEMICAL FAMILY: Alkali
FORMULA: NaOH
CAS NO.: 01318-73-2
RTEC NO.: WB4900000

SECTION II - HAZARDOUS COMPONENTS

NAME	PERCENT	TLV
Sodium Hydroxide	50%	2mg/m3 (Ceiling Limit) (dust and mists)

SECTION III - PHYSICAL CHARACTERISTICS

BOILING POINT: 293°F	VAPOR PRESSURE: 1.5mm Hg (mm Hg) @ 20°C
MELTING POINT: 55°F	VAPOR DENSITY: n/a (Air = 1)
SPECIFIC GRAVITY: 1.541 @ 60°F (H ₂ O = 1) (12.8 lbs/gal)	EVAPORATION RATE: n/a
SOLUBILITY (H ₂ O): Infinite	PERCENT VOLATILE BY VOLUME: n/a
REACTIVITY (H ₂ O): n/a	APPEARANCE AND ODOR: Water white to slightly gray, odorless solution.

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: Not flammable

FLAMMABLE LIMITS: Lower n/a Upper n/a
(In Air % by Volume)EXTINGUISHER MEDIA: Not combustible. Use extinguishing agents,
as may be suitable for materials in surrounding fire.SPECIAL FIRE FIGHTING PROCEDURES: Not combustible. Use clothing
and safety equipment as may be suitable for sodium hydroxide and
materials in the surrounding fire.UNUSUAL FIRE AND EXPLOSION HAZARDS: Water when added to sodium
hydroxide solution may cause localized overheating and possible
splattering. Sodium hydroxide reacts with aluminum, zinc and
their alloys generating hydrogen gas which is flammable and/or
explosive when ignited.

SECTION V - REACTIVITY DATA

STABILITY: Stable X Unstable _____CONDITIONS TO AVOID: Overheating in storage accelerates
corrosion. Store separately from materials which can react with
sodium hydroxide; especially acids, chlorocarbons, nitroparaffins
and phosphorus. When diluting, use agitation and add
concentrated sodium hydroxide to water at a controlled rate to
control heat of dilution and to avoid splattering. Do not add
water to sodium hydroxide.

INCOMPATIBILITY:

(Materials to avoid): Water added to solutions of sodium
hydroxide may cause localized overheating and splattering.
Contact with acids, flammable liquids and organic halogen
compounds, especially trichloroethylene, may cause fires and/or
explosions. Contact with metals such as aluminum, tin and zinc
causes the formation of flammable hydrogen gas. Contact with
nitromethane and similar nitro compounds causes the formation of
shock sensitive salts.

HAZARDOUS DECOMPOSITION PRODUCTS: None

HAZARDOUS POLYMERIZATION: n/a

SECTION VI - HEALTH HAZARDS

TOXICITY: Acute Oral Toxicity LD10 (rabbit, 10% solution): 500
mg/kg. Corrosive to animal tissues.EFFECTS OF OVEREXPOSURE: Contact with skin or eyes may cause
severe irritation or burns. Ingestion may result in severe
intestinal irritation with burns to mouth.

ACUTE: n/a

CHRONIC: n/a

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: n/a

EMERGENCY AND FIRST AID PROCEDURES: Call a physician. If
swallowed, if conscious, immediately induce vomiting. In case of
contact immediately flush eyes with plenty of water for at least
15 minutes. Flush skin with water.

THRESHOLD LIMIT VALUE: 2 mg/M3 Ceiling Limit (dust and mists)

OSHA PERMISSIBLE EXPOSURE LIMIT: n/a

OTHER EXPOSURE LIMIT: n/a

CHEMICAL LISTED AS CARCINOGEN OR POTENTIAL CARCINOGEN: n/a

National Toxicology Program	Yes	No
I.A.R.C. Monographs	Yes	No
OSHA	Yes	No
OTHER	Yes	No

SECTION VII - SPILL AND LEAK PROCEDURES

STEPS TO BE TAKEN IN EVENT
OF SPILL OR RELEASE: Wear self-contained breathing apparatus
and full protective clothing. Stop leak if you can do so without
risk. Ventilate area. Carefully neutralize spill with dilute
HCL. Flush area with flooding amounts of water. (Use caution.)
J.T. Baker Neutralit-2(R) caustic neutralizer is recommended for
spills of this product.WASTE DISPOSAL METHODS: Dispose in accordance with all
applicable federal, state, and local environmental regulations.

EPA HAZARDOUS WASTE NO.: 0002 (Corrosive waste)

SECTION VIII - PROTECTION INFORMATION

RESPIRATORY: Respiratory protection required if airborne
concentration exceeds TLV. At concentrations above 1 PPM, a
self-contained breathing apparatus is advised.VENTILATION: Use general or local exhaust ventilation to meet
TLV requirements.

GLOVES: Proper gloves are recommended.

EYE/SKIN PROTECTION: Safety goggles and face shield, uniform,
protective suit.

SECTION IX - SPECIAL PRECAUTIONS

STORAGE AND HANDLING: Precautions: Prevent possible eye and
skin contact by wearing protective clothing and equipment.
Storage tanks must be vented and diked. Store drums of sodium
hydroxide separate from acids, metals and explosives. Provide
adequate drainage. When diluting, use agitation and add
concentrated caustic to water at a controlled rate to control
heat of dilution and to avoid splattering. Do not add water to
sodium hydroxide.