



Canada Colors and Chemicals Limited

CANADA COLORS & CHEMICALS LTD
152 KENNEDY ROAD SOUTH
BRAMPTON, ONTARIO
CANADA L6W 3G4
(905) 459-1232;

PRODUCT: CAUSTIC SODA LIQ 50% (MEM)

CODE: 297622

Section 01: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MANUFACTURER/SUPPLIER..... SULCO CHEMICALS LTD.
60 FIRST STREET EAST
ELMIRA, ONTARIO
N3B 2Z5
PREPARED BY..... Regulatory Affairs
PREPARATION DATE..... Apr20/14
PRODUCT NAME..... CAUSTIC SODA LIQ 50% (MEM)
PRODUCT CODE..... 297622
CHEMICAL FORMULA..... NAOH.
CHEMICAL FAMILY..... ALKALI.
MATERIAL USE..... REFER TO TECHNICAL LITERATURE.
EMERGENCY PHONE NO..... (416)-444-2112.

Section 02: COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Ingredients	%	Exposure Limit	C.A.S.#	LD/50, Route, Species	LC/50 Route, Species
SODIUM HYDROXIDE	49-52	SEE SECTION 11	1310-73-2	SEE SECTION 11	SEE SECTION 11

Section 03: HAZARDS IDENTIFICATION

ROUTE OF ENTRY:
SKIN CONTACT..... DERMAL EXPOSURE CAN CAUSE SEVERE IRRITATION AND/OR BURNS CHARACTERIZED BY REDNESS, SWELLING AND SCAB FORMATION. PROLONGED SKIN EXPOSURE MAY CAUSE PERMANENT DAMAGE. DUST OR MIST FROM SOLUTIONS CAN CAUSE IRRITANT DERMATITIS.

SKIN ABSORPTION..... N.AV.

EYE CONTACT..... CAUSES EYE BURNS. DIRECT CONTACT MAY CAUSE IMPAIRMENT OF VISION AND CORNEAL DAMAGE.

INHALATION..... INHALATION OF DUST OR MISTS CAN CAUSE DAMAGE TO THE UPPER RESPIRATORY TRACT AND TO THE LUNG TISSUE DEPENDING ON SEVERITY OF EXPOSURE. EFFECTS CAN RANGE FROM MILD IRRITATION OF MUCOUS MEMBRANES, SEVERE PNEUMONITIS AND DESTRUCTION OF LUNG TISSUES. INHALATION OF HIGH CONCENTRATIONS CAN RESULT IN PERMANENT LUNG DAMAGE.

INGESTION..... IRRITATION AND/OR BURNS CAN OCCUR TO THE ENTIRE GASTROINTESTINAL TRACT, INCLUDING THE STOMACH AND INTESTINES, CHARACTERIZED BY NAUSEA, VOMITING, DIARRHEA, ABDOMINAL PAIN, AND BLEEDING AND/OR TISSUE ULCERATION. MAY BE FATAL.

EFFECTS OF ACUTE EXPOSURE..... REFER TO ROUTE OF ENTRY.

EFFECTS OF CHRONIC EXPOSURE..... CHRONIC INHALATION EXPOSURE MAY CAUSE IMPAIRMENT OF LUNG FUNCTION AND PERMANENT LUNG DAMAGE. EFFECTS FROM CHRONIC SKIN EXPOSURE WOULD BE SIMILAR TO THOSE FROM SINGLE EXPOSURE EXCEPT FOR EFFECTS SECONDARY TO TISSUE DESTRUCTION.

MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE..... ASTHMA. RESPIRATORY AND CARDIOVASCULAR DISEASE.

Section 04: FIRST AID MEASURES

INSTRUCTIONS:..... EYE CONTACT:.. IMMEDIATELY FLUSH WITH LARGE AMOUNTS OF WATER FOR AT LEAST 15 MINUTES, OCCASIONALLY LIFTING THE UPPER AND LOWER EYELIDS. CHECK FOR AND REMOVE CONTACT LENSES. SEEK MEDICAL ATTENTION AT ONCE. SKIN CONTACT:.. IMMEDIATELY FLUSH WITH WATER FOR AT LEAST 15 MINUTES. SEEK MEDICAL ATTENTION AT ONCE. IF CLOTHING, SHOES AND/OR JEWELRY COME IN CONTACT WITH THE PRODUCT, THEY SHOULD BE REMOVED IMMEDIATELY AND LAUNDERED BEFORE RE-USE. INGESTION:.. RINSE MOUTH THOROUGHLY WITH WATER. IMMEDIATELY DRINK LARGE QUANTITIES OF WATER. DO NOT INDUCE VOMITING. SEEK MEDICAL ATTENTION AT ONCE. DO NOT GIVE ANYTHING BY MOUTH IF VICTIM IS UNCONSCIOUS OR IF HAVING CONVULSIONS. INHALATION:.. REMOVE TO FRESH AIR. IF PERSON EXPERIENCES NAUSEA, HEADACHE OR DIZZINESS, PERSON SHOULD STOP WORK IMMEDIATELY AND MOVE TO FRESH AIR UNTIL THESE SYMPTOMS DISAPPEAR. IF BREATHING IS DIFFICULT, ADMINISTER OXYGEN, KEEP THE PERSON WARM AND AT REST. SEEK MEDICAL ATTENTION. IN THE EVENT THAT AN INDIVIDUAL INHALES ENOUGH VAPORS TO LOSE CONSCIOUSNESS, PERSON SHOULD BE REMOVED TO FRESH AIR AT ONCE AND A PHYSICIAN SHOULD BE CALLED IMMEDIATELY. IN ALL CASES, ENSURE ADEQUATE VENTILATION AND PROVIDE RESPIRATORY PROTECTION BEFORE THE PERSON RETURNS TO WORK.

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Section 05: FIRE FIGHTING MEASURES

FLAMMABILITY.....	SEE FLASH POINT.
IF YES, UNDER WHICH CONDITIONS?	
EXTINGUISHING MEDIA.....	NOT APPLICABLE- CHOOSE EXTINGUISHING MEDIA SUITABLE FOR SURROUNDING MATERIALS.
SPECIAL PROCEDURES.....	ISOLATE DANGER AREA. WEAR PROTECTIVE EQUIPMENT. USE WATER TO COOL FIRE EXPOSED CONTAINERS. CONTACT WITH REACTIVE METALS, E.G., ALUMINUM MAY RESULT IN THE GENERATION OF FLAMMABLE HYDROGEN GAS, WHICH IS EXPLOSIVE.. SODIUM HYDROXIDE MAY REACT WITH WATER. .
FLASH POINT (C), METHOD.....	N.AP.
AUTO IGNITION TEMPERATURE.....	N.AP.
UPPER FLAMMABLE LIMIT (% BY VOL.)....	N.AP.
LOWER FLAMMABLE LIMIT (% BY VOL.)...	N.AP.
SENSITIVITY TO STATIC DISCHARGE.....	N.AV.
SENSITIVITY TO IMPACT.....	N.AV.
UNUSUAL FIRE AND EXPLOSION HAZARDS	CONTACT WITH REACTIVE METALS, E.G., ALUMINUM MAY RESULT IN THE GENERATION OF FLAMMABLE HYDROGEN GAS, SODIUM HYDROXIDE MAY REACT WITH WATER.
HAZARDOUS COMBUSTION PRODUCTS..	SEE HAZARDOUS DECOMPOSITION PRODUCTS.

Section 06: ACCIDENTAL RELEASE MEASURES

LEAK/SPILL.....	EVACUATE AREA. CLEAR NON-EMERGENCY PERSONNEL FROM AREA. ALWAYS WEAR RECOMMENDED PERSONAL PROTECTIVE EQUIPMENT. VENTILATE AREA OF LEAK OR SPILL. CONTAIN MATERIAL TO PREVENT CONTAMINATION OF SOIL, SURFACE WATER OR GROUND WATER. DIKE SPILLS IMMEDIATELY. CAREFULLY FLUSH SMALL SPILLS OF CAUSTIC SODA SOLUTION WITH WATER. CONTAIN LIQUID TO PREVENT CONTAMINATION OF SOIL, SURFACE OF WATER OR GROUND WATER. ATTEMPT TO NEUTRALIZE FINAL TRACES OF CAUSTIC SODA WITH DILUTE ACID, PREFERABLY ACETIC ACID.
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Section 07: HANDLING AND STORAGE

HANDLING PROCEDURES AND EQUIPMENT	CORROSIVE. AVOID BREATHING MIST OR VAPOUR. AVOID CONTACT WITH EYES, SKIN, AND CLOTHING. DO NOT TAKE INTERNALLY. USE WITH ADEQUATE VENTILATION. WEAR PROTECTIVE EQUIPMENT DURING HANDLING. WHEN MAKING SOLUTIONS OR DILUTING, ADD CAUSTIC SODA SLOWLY TO SURFACE OF COLD WATER WHILE STIRRING. NEVER ADD WATER TO CAUSTIC SODA. AVOID CONTACT WITH ORGANIC MATERIALS AND CONCENTRATED ACIDS-MAY CAUSE VIOLENT REACTIONS. EMPTY CONTAINERS MAY CONTAIN HAZARDOUS PRODUCT RESIDUES. FOLLOW LABEL WARNINGS EVEN AFTER CONTAINER IS EMPTIED.
STORAGE NEEDS.....	DO NOT STORE AT TEMPERATURES ABOVE: 130 C (266 F).
PRECAUTIONARY MEASURES:.....	SHELF LIFE LIMITATIONS: INDEFINITE IF IN CLOSED CONTAINER. INCOMPATIBLE MATERIALS FOR PACKAGING: ALUMINUM, ZINC, TIN, WOOD, PAPER. INCOMPATIBLE MATERIALS FOR STORAGE OR TRANSPORT: ACIDS, NITROGEN CONTAINING ORGANICS, PHOSPHOROUS, EXPLOSIVES, ORGANIC PEROXIDES, ALUMINUM, ZINC, TIN, HALOGENATED HYDROCARBONS.

Section 08: EXPOSURE CONTROLS/PERSONAL PROTECTION

GLOVES/ TYPE.....	WEAR NEOPRENE GLOVES. NITRILE. NATURAL RUBBER.
RESPIRATORY/TYPE.....	IF MISTS, OR AEROSOLS ARE GENERATED AND ARE NOT CONTROLLED BELOW THE TLV WITH VENTILATION WEAR A NIOSH APPROVED DUST/MIST RESPIRATOR. THE RESPIRATORY USE LIMITATIONS MADE BY NIOSH OR THE MANUFACTURER MUST BE OBSERVED.
EYE/TYPE.....	CLOSE FITTING CHEMICAL SAFETY GOGGLES WITH FACESHIELD.
FOOTWEAR/TYPE.....	CHEMICAL RESISTANT BOOTS.
CLOTHING/TYPE.....	IMPERVIOUS CLOTHING. RUBBER APRONS, PVC CLOTHING, AND PLASTIC HARD HATS SHOULD BE USED WHEN NECESSARY TO PREVENT SKIN CONTACT.
OTHER/TYPE.....	EMERGENCY EYE WASH AND SAFETY SHOWERS MUST BE MADE AVAILABLE IN THE IMMEDIATE WORK AREA.
ENGINEERING CONTROLS.....	USE LOCAL EXHAUST VENTILATION TO MAINTAIN LEVELS TO BELOW THE TLV.

Section 09: PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE.....	LIQUID.
ODOUR.....	NONE.
ODOUR THRESHOLD.....	N.AP.
VAPOUR PRESSURE (MMHG).....	1.
VAPOUR DENSITY (AIR=1).....	N.AV.
EVAPORATION RATE.....	N.AV.
BOILING POINT.....	130-140 (C) (266-284 F).
FREEZING POINT.....	5-12 C (41-54 F).
PH.....	13 (0.5% SOLUTION). @ 25(C).

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Section 09: PHYSICAL AND CHEMICAL PROPERTIES

MOLECULAR WEIGHT..... 40.1 (ACTIVE AGENT).
 SPECIFIC GRAVITY (WATER=1)..... 1.482-1.53.
 SOLUBILITY IN WATER (% W/W)..... MISCIBLE.
 COEFFICIENT OF WATER/OIL DIST..... N.AV.

Section 10: STABILITY AND REACTIVITY

CHEMICAL STABILITY:
 YES..... STABLE.
 NO, WHICH CONDITIONS?
 COMPATABILITY WITH OTHER
 SUBSTANCES:
 YES
 NO, WHICH ONES?..... ACIDS. NITROGEN CONTAINING ORGANICS. EXPLOSIVES. PHOSPHORUS.
 CARBOHYDRATES. ORGANIC PEROXIDES. HALOGENATED HYDROCARBONS.
 ADDITIONAL INFORMATION..... CONTACT WITH ORGANIC MATERIALS AND CONCENTRATED ACIDS MAY CAUSE
 VIOLENT REACTIONS.
 HAZARDOUS PRODUCTS OF CONTACT WITH CARBOHYDRATES CAN PRODUCE CARBON MONOXIDE. CONTACT
 DECOMPOSITION WITH ALUMINUM, ZINC, OR TIN CAN PRODUCE HYDROGEN GAS.
 HAZARDOUS POLYMERIZATION..... WILL NOT OCCUR.

Section 11: TOXICOLOGICAL INFORMATION

EXPOSURE LIMIT OF MATERIAL..... EXPOSURE GUIDELINES: SODIUM HYDROXIDE.. ACGIH CEILING EXPOSURE LIMIT
 (TLV-C) 2 MG/M3; OSHA PEL 2 MG/M3; NIOSH IDLH 10 MG/M3.
 LC 50 OF MATERIAL, SPECIES & ROUTE.. N.AV.
 LD 50 OF MATERIAL, SPECIES & ROUTE.. 300-500 MG/KG. (ORAL-RAT). HARMFUL IF SWALLOWED. >2 G/KG.
 (DERMAL-RABBIT).
 CARCINOGENICITY OF MATERIAL..... 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.
 MUTAGENICITY..... SODIUM HYDROXIDE HAS BEEN TESTED AND WAS FOUND TO BE
 NON-MUTAGENIC IN THE AMES ASSYS, A BACTERIAL DNA-REPAIR TEST AND IN
 THE SYRIAN HAMSTER EMBRYO (SA7/SHE) CELL TRANSFORMATION ASSAY.
 REPRODUCTIVE EFFECTS..... THERE ARE NO KNOWN OR REPORTED EFFECTS ON REPRODUCTIVE FUNCTION
 OR FETAL DEVELOPMENT FROM EXPOSURE TO THIS PRODUCT.
 IRRITANCY OF MATERIAL..... CORROSIVE. CAUSES BURNS TO EYES AND SKIN.
 SENSITIZING CAPABILITY OF MATERIAL.. N.AV.
 SYNERGISTIC MATERIALS..... N.AV.

Section 12: ECOLOGICAL CONSIDERATIONS

ENVIRONMENTAL STATEMENT..... HIGHLY TOXIC TO AQUATIC LIFE. 240UG/L (BLUEGILL) 96-HOUR TLM LC50.

Section 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL..... DISPOSE OF IN ACCORDANCE WITH FEDERAL, PROVINCIAL AND LOCAL
 REGULATIONS. EMPTY CONTAINERS SHOULD BE RECYCLED OR DISPOSED OF
 THROUGH AN APPROVED WASTE MANAGEMENT FACILITY.

Section 14: TRANSPORT INFORMATION

UN NUMBER..... 1824.
 TDG CLASSIFICATION..... 8.
 PACKING GROUP..... II.
 SPECIAL SHIPPING INSTRUCTIONS..... N.AP.

Section 15: REGULATORY INFORMATION

WHMIS CLASSIFICATION..... E.
 CPR COMPLIANCE..... THIS PRODUCT HAS BEEN CLASSIFIED IN ACCORDANCE WITH THE HAZARD
 CRITERIA OF THE CPR AND THE MSDS CONTAINS ALL THE INFORMATION
 REQUIRED BY THE CPR.

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Section 16: OTHER INFORMATION

N.AV.=NOT AVAILABLE

N.AP.=NOT APPLICABLE

DSL..... LISTED.