

SODIUM HYDROXIDE SOLUTION (Caustic Solution)

THIS MATERIAL SAFETY DATA SHEET PROVIDED AS A GUIDE TO THE USER
PLEASE READ ENTIRE MSDS BEFORE USING THIS PRODUCT
PLEASE CONTACT THE TECHNICAL ASSISTANCE NUMBER FOR ANY ADDITIONAL INFORMATION

Product Name:

SODIUM HYDROXIDE SOLUTION (Caustic Solution)
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THIS MATERIAL IS DISTRIBUTED BY:

MI CHLOR-ALKALI, INC.

1 HOUSTON CENTER, SUITE 3555

HOUSTON, TX 77010-2009

LAST REVISION DATE: 3/22/2005 2:23 PM

24 HOUR EMERGENCY RESPONSE: 1 800 424 9300 / 703 527 3887 CALL COLLECT

SECTION I IDENTIFICATION

PRODUCT NAME: CAUSTIC SODA SOLUTION 50%, COMMERCIAL GRADE

CHEMICAL FAMILY: N/D

FORMULA: CONFIDENTIAL

SECTION II— HAZARDOUS INGREDIENTS COMPOSITION

HAZARDOUS INGREDIENT	CAS NUMBER	PEL	IDLH	PERCENT
SODIUM HYDROXIDE (NAOH)	001310-73-2		49-51%	
SODIUM CHLORIDE (NACL)	007647-14-5			0-1%
WATER	007732-18-5		BAL	

SECTION III — HAZARD - PHYSICAL DATA -

APPEARANCE: COLORLESS TO SLIGHTLY HAZY ODORLESS LIQUID

PHYSICAL FORM: LIQUID COLOR: CLEAR

BOILING POINT: APPROX. 293 DEG F/ 145 DEG C

VAPOR PRESSURE: 1.5 MM HG, 0.2KPA @ 20 DEG C

UEL/LEL: N/A

SPECIFIC GRAVITY @ 20 DEG C (DENS.) 1.52 G/ML

SOLUBILITY IN WATER: WATER SOLUTION

PH: 14

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WARNING:

MAY REACT VIOLENTLY WITH WATER. CAUSES SEVERE EYE BURNS. CAUSES SEVERE SKIN BURNS. CAUSES RESPIRATORY TRACT IRRITATION. ASPIRATION HAZARD. CAN ENTER LUNGS AND CAUSE DAMAGE.

THIS MATERIAL SHOULD ONLY BE HANDLED BY PROPERLY TRAINED PERSONEL WITH PROPER PROTECTIVE CLOTHING AND RESPIRATORY EQUIPMENT. UN PROTECTED EXPOSURE MAY BE HARMFUL.

SECTION IV -- FIRST AID

CAUTION SHOULD BE USED TO AVOID CROSS EXPOSURE WHEN TREATING EXPOSURE VICTIMS. THIS MATERIAL MAY BE HARMFUL TO EYES, SKIN, IF INHALED OR INGESTED.

IF SAFE TO DO SO MOVE VICTIM TO FRESH AIR, HAVE THEM LIE DOWN AND TRY TO CONTROL THEIR LEVEL OF EXERTION TO KEEP THEM CALM AND BREATHING AS NORMAL AS POSSIBLE. REMOVE CONTAMINATED CLOTHING FOR DISPOSAL AND KEEP VICTIM WARM WITH BLANKETS OR OTHER MEANS. EMERGENCY RESPONSE PERSONEL SHOULD IMMEDIATELY BEGIN DECONTAMINATION PROCEDURE USING CAUTION TO PREVENT CONTACT WITH THE SPILLED MATERIAL.

EYES: WASH EYES IMMEDIATELY AND CONTINUOUSLY WITH FLOWING WATER FOR 30 MINUTES WHILE HOLDING EYELIDS OPEN AND ROLLING EYES BACK AND FORTH. CALL A PHYSICIAN IMMEDIATELY. CONTINUE WASHING UNTIL THE PHYSICIAN ADVISES TO STOP. DO NOT USE SOAP OR ATTEMPT TO NEUTRALIZE WITH CHEMICALS. YOU MAY HAVE 10 SECONDS OR LESS TO AVOID SERIOUS PERMANENT INJURY.

SKIN: IMMEDIATELY SHOWER WITH LARGE AMOUNTS OF WATER FOR 30 MINUTES. CALL A PHYSICIAN IMMEDIATELY. REMOVE CLOTHING WHILE SHOWERING. REMOVE CHEMICAL GOGGLES LAST TO KEEP MATERIAL FROM WASHING INTO EYES. DO NOT APPLY OILS OR LOTION. KEEP VICTIM WARM.

INHALATION: IMMEDIATELY REMOVE TO FRESH AIR. CALL A PHYSICIAN IMMEDIATELY.

INGESTION: IMMEDIATELY HAVE VICTIM DRINK PLENTY OF WATER OR MILK. DO NOT INDUCE VOMITING. CALL A PHYSICIAN IMMEDIATELY. TRANSPORT TO A MEDICAL FACILITY.

ALWAYS SEEK MEDICAL ATTENTION WHEN EXPOSED TO THIS OR OTHER CHEMICALS.

SECTION V -- FIRE AND EXPLOSION DATA

FLASHPOINT:	NONE	AUTOIGNITION TEMPERATURE	N/A
UEL / LEL	N/A	TOLERANCE	N/D
EXTINGUISHING MEDIA:	THIS MATERIAL DOES NOT BURN. IF EXPOSED TO FIRE FROM ANOTHER SOURCE, USE SUITABLE FIRE EXTINGUISHING AGENT FOR THAT FIRE. DO NOT USE WATER.		

UNUSUAL FIRE AND EXPLOSION HAZARDS:

PRODUCT REACTS WITH WATER. REACTION MAY PRODUCE HEAT AND/OR GASES. THIS REACTOIN MAY BE VIOLENT. VIOLENT STEAM GENERATION OR

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ERUPTION MAY OCCUR UPON APPLICATION OF DIRECT WATER STREAM TO HOT LIQUIDS.

FIRE FIGHTING EQUIPMENT: WEAR POSITIVE-PRESSURE SELF-CONTAINED BREATHING APPARATUS (SCBA) AND PROTECTIVE FIRE FIGHTING CLOTHING (INCLUDES FIRE FIGHTING HELMET, COAT, PANTS, BOOTS AND GLOVES). AVOID CONTACT WITH THIS MATERIAL DURING FIRE FIGHTING OPERATIONS. IF CONTACT IS LIKELY, CHANGE TO FULL CHEMICAL RESISTANT FIRE FIGHTING CLOTHING WITH SCBA. IF THIS IS NOT AVAILABLE, WEAR FULL CHEMICAL RESISTANT CLOTHING WITH SCBA AND FIGHT FIRE FROM A REMOTE LOCATION. FOR PROTECTIVE EQUIPMENT IN POST-FIRE OR NON-FIRE CLEAN UP SITUATIONS, REFER TO THE RELEVANT SECTIONS.

LOW LEVELS FOR EXPLOSIVE LIMITS WHEN MIXED IN AIR CREATE A DANGEROUS FIRE RISK. HIGH CONCENTRATIONS MAY RESULT IN A NARCOTIC EFFECT ON UN PROTECTED PERSONEL WORKING IN IMMEDIATE AREA.

FIRE FIGHTING INSTRUCTIONS:

KEEP PEOPLE AWAY. ISOLATE FIRE AREA AND DENY UNNECESSARY ENTRY. WATER IS NOT RECOMMENDED, BUT MAY BE APPLIED IN LARGE QUANTITIES AS A FINE SPRAY WHEN OTHER EXTINGUISHING AGENTS ARE NOT AVAILABLE. THIS MATERIAL DOES NOT BURN. FIGHT FIRE FOR OTHER MATERIAL THAT IS BURNING.

SECTION VI ACCIDENTAL RELEASE MEASURES

PROTECT PEOPLE: EVACUATE AREA. CLEAR NON-EMERGENCY PERSONNEL FROM AREA. VENTILATE AREA OF SPILL OR LEAK.

PROTECT THE ENVIRONMENT: CONTAIN MATERIAL TO PREVENT CONTAMINATION OF SOIL, SURFACE WATER OR GROUND WATER.

CLEANUP: DIKE SPILLS IMMEDIATELY. CAREFULLY FLUSH SMALL SPILLS OF CAUSTIC SODA SOLUTION WITH WATER. ATTEMPT TO NEUTRALIZE FINAL TRACES OF CAUSTIC SODA WITH DILUTE ACID, PREFERABLY ACETIC ACID.

FOLLOW ALL LOCAL, STATE AND FEDERAL REGULATIONS FOR DISPOSAL OF SPILLED MATERIAL.

SEE SECTIONS 13-14-15 FOR ADDITIONAL INFORMATION

SECTION VII - HANDLING - STORAGE - REACTIVITY DATA

HANDLING: 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 LUKE WARM (80-100 DEG F). NEVER START WITH HOT OR COLD WATER.

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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 ABOVE 60 DEG F (16 DEG C). KEEP CONTAINERS CLOSED. STORE IN A DRY PLACE. PROTECT FROM ATMOSPHERIC MOISTURE. DO NOT STORE IN: ZINC, ALUMINUM, BRASS, TIN.

REGULATORY REQUIREMENTS: FOLLOW ALL APPLICABLE LOCAL, STATE, AND FEDERAL LAWS AND REGULATIONS.

AVOID CROSS CONTAMINATION OF MATERIAL ON CLOTHES OR EQUIPMENT.

ALWAYS CLEAN CLOTHING AND EQUIPMENT AFTER USE. KEEP CONTAINER

CLOSED WHEN NOT IN USE

USE CAUTION AS LOW LEVELS OF VAPOURS CAN RESULT IN FIRE OR EXPLOSION. A MIXTURE OF AS LITTLE AS 2.5 % CAN FLASH AND CONTAINERS WITH AS LITTLE AS 8 % (BY WEIGHT) IF EXPOSES TO AN IGNITION SOURCE CAN CAUSE A FIRE OR EXPLOSION.

SECTION VIII - EXPOSURE - HEALTH DATA - PERSONAL PROTECTION

PROVIDE GENERAL OR LOCAL EXHAUST VENTILATION SYSTEMS TO MAINTAIN AIRBORNE CONCENTRATIONS BELOW OSHA PELs. LOCAL EXHAUST VENTILATION IS PREFERRED BECAUSE IT PREVENTS CONTAMINANT DISPERSION INTO THE WORK AREA BY CONTROLLING IT AS ITS SOURCE.

ALWAYS CONSULT WITH YOUR COMPANY HEALTH AND SAFETY DEPARTMENT FOR SPECIFIC INSTRUCTION FOR WORKING WITH THIS MATERIAL.

GET MEDICAL ATTENTION IMMEDIATELY AFTER EXPOSURE.

PRIMARY ENTRY ROUTES: EYES, SKIN, INHALATION, INGESTION

FOR EYES - MAY CAUSE SEVERE IRRITATION WITH CORNEAL INJURY WHICH MAY RESULT IN PERMANENT IMPAIRMENT OF VISION, EVEN BLINDNESS. CHEMICAL BURNS MAY OCCUR. MIST MAY CAUSE EYE IRRITATION.

FOR SKIN -CLASSIFIED AS CORROSIVE TO THE SKIN ACCORDING TO DOT. SHORT SINGLE EXPOSURE MAY CAUSE SEVERE SKIN BURNS. A SINGLE PROLONGED EXPOSURE IS NOT LIKELY TO RESULT IN ABSORPTION OF HARMFUL AMOUNTS.

IF INHALED - MISTS MAY CAUSE SEVERE IRRITATION OF UPPER RESPIRATORY TRACT (NOSE AND THROAT)

IF INGESTED - THIS IS A CONCENTRATED CAUSTIC SODA SOLUTION. SWALLOWING MAY RESULT IN BURNS OF THE MOUTH AND THROAT. SWALLOWING MAY RESULT IN GASTROINTESTINAL IRRITATION OR ULCERATION. ASPIRATION INTO THE LUNGS MAY OCCUR DURING INGESTION OR VOMITING, CAUSING TISSUE DAMAGE OR LUNG INJURY.

RESPIRATOR PROTECTION - ATMOSPHERIC LEVELS SHOULD BE MAINTAINED BELOW THE EXPOSURE GUIDELINE. IF RESPIRATORY IRRITATION IS EXPERIENCED, USE AN APPROVED AIR-PURIFYING RESPIRATOR.

ENGINEERING CONTROLS: PROVIDE GENERAL AND/OR LOCAL EXHAUST VENTILATION TO CONTROL AIRBORNE LEVELS BELOW THE EXPOSURE GUIDELINES.

EYE/FACE PROTECTION: USE CHEMICAL 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 WAS FOUNTAIN SHOULD BE LOCATED IN IMMEDIATE WORK AREA.

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SKIN PROTECTION: USE PROTECTIVE CLOTHING CHEMICALLY RESISTANT TO THIS MATERIAL. SELECTION OF SPECIFIC ITEMS SUCH AS FACE-SHIELD, GLOVES, BOOTS, APRON, OR FULL BODY SUIT WILL DEPEND ON OPERATION. SAFETY SHOWER SHOULD BE LOCATED IN IMMEDIATE WORK AREA. REMOVE CONTAMINATED CLOTHING IMMEDIATELY, WASH SKIN AREA WITH SOAP AND WATER, AND LAUNDRER CLOTHING BEFORE REUSE OR DISPOSE OR PROPERLY. ITEMS WHICH CANNOT BE DECONTAMINATED, SUCH AS SHOES, BELTS AND WATCHBANDS, SHOULD BE REMOVED AND DISPOSED OF PROPERLY. IMMEDIATELY WAS THOROUGHLY ANY SIZE EXPOSURE WITH NON-ABRASIVE SOAP AND LARGE QUANTITIES OF WATER FOR 30 MINUTES, WHILE REMOVING CONTAMINATED CLOTHING AND SHOES.

RESPIRATORY PROTECTION: ATMOSPHERIC LEVELS SHOULD BE MAINTAINED BELOW THE EXPOSURE GUIDELINE. IF RESPIRATORY IRRITATION IS EXPERIENCED, USE AN APPROVED AIR-PURIFYING RESPIRATOR.

EXPOSURE GUIDELINE(S): SODIUM HYDROXIDE: OSHA PEL AND ACGIH TLV ARE 2 MG/M3 CEILING.

PELS ARE IN ACCORD WITH THOSE RECOMMENDED BY OSHA, AS IN THE 1989 REVISION OF PELs.

SEPARATE CONTAMINATED WORK CLOTHES FROM STREET CLOTHES. LAUNDRER BEFORE REUSE. REMOVE THIS MATERIAL FROM YOUR SHOES AND CLEAN PERSONAL PROTECTIVE EQUIPMENT.

NEVER EAT, DRINK, OR SMOKE IN WORK AREA.

SECTION VIII — PHYSICAL AND CHEMICAL PROPERTIES
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FORM: LIQUID WITH SPECIFIC GRAVITY @ 20 DEG C (DENS.) 1.52 G/ML

ODOR: ODORLESS

THRESHOLD LIMIT VALUE:

N/D

AIRBORNE EXPOSURE LIMITS = N/D

HEALTH HAZARDS:

MAY REACT VIOLENTLY WITH WATER. CAUSES SEVERE EYE BURNS, CAUSES SEVERE SKIN BURNS. CAUSES RESPIRATORY TRACT IRRITATION ASPIRATION HAZARD. CAN ENTER LUNGS AND CAUSE DAMAGE.

ROUTES OF ENTRY

EYES, SKIN, INGESTION, AND INHALATION

INHALATION:

MAY CAUSE SEVERE IRRITATION OF THE UPPER RESPIRATORY TRACT

INGESTION:

IF SWALLOWED MAY RESULT IN BURNING OF MOUTH AND THROAT, GASTROINTESTINAL IRRITATION OR ULCERATION. ASPIRATION INTO LUNGS MAY OCCUR INGESTION OR VOMITING, CAUSING TISSUE DAMAGE OR LUNG INJURY.

SKIN (DERMAL)

THIS MATERIAL IS CORROSIVE TO THE SKIN, SHORT SINGLE EXPOSURE MAY CAUSE SEVERE SKIN BURNS. A SINGLE PROLONGED EXPOSURE IS NOT LIKELY TO RESULT IN ABSORPTION OF HARMFUL AMOUNTS.

EYES:

MAY CAUSE SEVERE EYE IRRITATION WITH CORNEAL INJURY WHICH MAY RESULT IN PERMANENT IMPAIRMENT OF VISION, EYE BLINDNESS. CHEMICAL BURNS MAY OCCUR. MIST MAY CAUSE EYE IRRITATION.

OVER EXPOSURE EFFECTS:

SEEK IMMEDIATE MEDICAL ATTENTION

HMIS HEALTH- 3

HMIS FLAMMABILITY- 0

HMIS REACTIVITY- 1

HMIS OTHER- X

TSCAT STATUS:

RCRA HAZARDOUS WASTE

ALL MATERIALS IN THIS PRODUCT ARE PRODUCED IN COMPLIANCE WITH PUBLIC LAW 94-469, (ALSO KNOWN AS THE "TOXIC SUBSTANCES CONTROL ACT OF 1976)

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SECTION X – STABILITY AND REACTIVITY

STABILITY: STABLE UNDER RECOMMENDED STORAGE CONDITIONS.

CONDITIONS TO AVOID: AVOID MOISTURE. PRODUCT ABSORBS CARBON DIOXIDE FROM THE AIR.

INCOMPATIBILITY: HEAT IS GENERATED WHEN MIXED WITH WATER. SPATTERING AND BOILING CAN OCCUR. CAUSTIC SODA SOLUTION REACTS READILY WITH VARIOUS REDUCING SUGARS (I.E. FRUCTOSE, GALACTOSE, MALTOSE, DRY WHEY SOLIDS) TO PRODUCE CO. TAKE PRECAUTIONS INCLUDING MONITORING THE TANK ATMOSPHERE FOR CO TO ENSURE SAFETY OF PERSONNEL BEFORE VESSEL ENTRY. AVOID CONTACT WITH: ACIDS, GLYCOLS, HALOGENATED ORGANICS, ORGANIC NITRO COMPOUNDS. FLAMMABLE HYDROGEN MAY BE GENERATED FROM CONTACT WITH METAL SUCH AS ZINC, ALUMINUM, TIN, BRASS.

HAZARDOUS DECOMPOSITION:

DOES NOT COMPOSE; HAZARDOUS POLYMERIZATION WILL NOT OCCUR.

SECTION XI – TOXICOLOGICAL INFORMATION

SKIN: THE DERMAL LD50 HAS NOT BEEN DETERMINED.

INGESTION: SINGLE DOSE ORAL LD50 HAS NOT BEEN DETERMINED.

MUTAGENICITY: NO RELEVANT INFORMATION FOUND.

AVOID EXPOSURE WITHOUT PROTECTIVE GEAR - REPEATED EXPOSURE TO SKIN OR EYES MAY HAVE TOXIC EFFECTS - INGESTION HARMFUL - IF INGESTED SEEK IMMEDIATE MEDICAL ATTENTION

EXPOSURE GUIDELINES: SEE SECTION XV FOR ADDITIONAL INFORMATION

TOXIC EFFECTS VARY DEPENDING ON LEVEL OF EXPOSURE - ALWAYS SEEK MEDICAL ATTENTION AFTER EXPOSURE TO CHEMICALS IN ACCORDANCE WITH YOUR COMPANY HEALTH AND SAFETY PROCEDURES.

SECTION XII – ECOLOGICAL INFORMATION

MOVEMENT AND PARTITIONING: BASED ON INFORMATION FOR SODIUM HYDROXIDE. NO BIOCONCENTRATION IS EXPECTED BECAUSE OF THE RELATIVELY HIGH WATER SOLUBILITY. PARTITIONING FROM WATER TO N-OCTACOL IS NOT APPLICABLE.

DEGRADATION AND 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/EC50 BETWEEN 10 AND 100 MG/L IN MOST SENSITIVE SPECIES). MAY CAUSE PH SHIFTS OUTSIDE THE RANGE OF 5-10; THIS CHANGE MAY BE TOXIC TO AQUATIC ORGANISMS.

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SECTION XIII - DISPOSAL INFORMATION

US EPA RCRA STATUS DEFINED AS HAZARDOUS CHEMICAL

DISPOSAL METHOD: 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. THE DOW CHEMICAL COMPANY 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 CONDITION.

FOR UNUSED AND UNCONTAMINATED PRODUCT, THE PREFERRED OPTIONS INCLUDE SENDING TO A LICENSED, PERMITTED: RECYCLER.

AS A SERVICE TO ITS CUSTOMERS, DOW CAN PROVIDE NAMES OF INFORMATION RESOURCES TO HELP IDENTIFY WASTE MANAGEMENT COMPANIES AND OTHER FACILITIES WHICH RECYCLE, REPROCESS OR MANAGE CHEMICALS OR PLASTICS, AND THAT MANAGE USED DRUMS. TELEPHONE DOW'S CUSTOMER INFORMATION CENTER AT 800-258-2436 OR 989-832-1556 FOR FURTHER DETAILS.

SECTION XIV - TRANSPORTATION INFORMATION

PROPER SHIPPING NAME: SODIUM HYDROXIDE SOLUTION

HAZARD CLASS: CLASS 8

UN OR ID NUMBER: 1824

PACKING GROUP: II

NORTH AMERICAN EMERGENCY RESPONSE GUIDE NO: 154

ALWAYS CONSULT MODE SPECIFIC REGULATIONS BEFORE SHIPPING THIS MATERIAL BY HIGHWAY, RAIL, AIR, OR OCEAN

FOR ASSISTANCE CONTACT larry@dangerousgoods.com

PACKAGINGS BULK AND NON-BULK

REPORTABLE QUANTITY 2000/ 908 KG

TRADE NAME: CAUSTIC SODA SOLUTION 50%, COMMERCIAL GRADE

SYNONYMS: N/D

SIGNAL WORD: HAZARDOUS

SECTION XV - REGULATORY INFORMATION

ALL COMPONENTS ARE IN COMPLIANCE WITH THE FOLLOWING REGULATORY AGENCIES: USA -
TSCA / CANADIAN DSL / EU EINECS / JAPANESE ENCS
KOREA/CANADIAN

ACGIH 2000 - SHORT TERM EXPOSURE LEVELS

CANADA - WHMIS - INGREDIENT DISCLOSURE

CERCLA/SARA - HAZ SUBSTANCES & THEIR RQ

INVENTORY-CANADA-DOMESTIC SUBSTANCE LIST

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INVENTORY- EUROPEAN EINECS INVENTORY

INVENTORY - JAPAN - (ENCS)

INVENTORY- KOREA - EXISTING AND EVALUATED

INVENTORY-TSCA-SECT 8(b) INVENTORY

MASSACHUSETTS-RIGHT TO KNOW LIST

NEW JERSEY- DEPARTMENT OF HEALTH RTK LIST

NEW JERSEY- SPECIAL HAZARDOUS SUBSTANCES

OSHA - FINAL PELs- TIME WEIGHTED AVERAGES

PENNSYLVANIA RIGHT TO KNOW LIST

TSCA-SECT 12(b)- EXPORT NOTIFICATION

SARA HAZARD NOTIFICATION TITLE III CLASSIFICATION SECTION 311,312

ACUTE	YES	CHRONIC	NO
FIRE	NO	REACTIVITY	YES
SUDDEN RELEASE OF PRESSURE		NO	
REPORTABLE QUANTITY	2000 LBS / 908 KG		

IF REGULATED UNDER CERCLA ANY MATERIAL RELEASED IN EXCESS OF THE REPORTABLE QUANTITY IN A SINGLE 24 HOUR PERIOD MUST BE REPORTED TO THE NATIONAL RESPONSE CENTER IN THE USA AT 1 800 424 8802 OR AT THE LOCAL NUMBER OF 1 202 426 2675.

THIS PRODUCT HAS BEEN REVIEWED AND CLASSIFIED IF REQUIRED IN ACCORDANCE WITH THE HAZARD CRITERIA OF THE CANADIAN CONTROLLED PRODUCTS REGULATION AND THIS MSDS WILL CONTAIN ALL REQUIRED INFORMATION BY THE CANADIAN CONTROLLED PRODUCTS REGULATIONS

SECTION XI PROVIDES HEALTH & SAFETY INFORMATION

SECTION XIII PROVIDES ENVIRONMENTAL INFORMATION

SECTION XIV PROVIDES TRANSPORTATION INFORMATION

SECTION XVI OTHER

THIS PRODUCTS HEALTH AND SAFETY INFORMATION IS PROVIDED TO ASSIST OUR CUSTOMERS IN ASSESSING COMPLIANCE WITH HEALTH, SAFETY AND ENVIRONMENTAL REGULATIONS. THE INFORMATION CONTAINED HEREIN IS BASED ON INFORMATION CURRENTLY AVAILABLE TO US AND IS BELIEVED TO BE ACCURATE. PLEASE BE ADVISED THAT NO GUARANTEE OR WARRANTY IS PROVIDED OR IMPLIED BY THE COMPANY, ITS EMPLOYEES, ITS AGENTS, DISTRIBUTORS, OR THE PREPARER OF THIS MSDS IN THIS RESPECT.

SINCE THE USE OF THIS PRODUCT IS WITHIN THE EXCLUSIVE CONTROL OF THE USER, IT IS THE USERS RESPONSIBILITY TO DETERMINE THE CONDITIONS OF SAFE USE. SUCH CONDITIONS MUST COMPLY WITH ALL GOVERNMENTAL REGULATIONS. ALL MATERIALS IN THIS PRODUCT ARE PRODUCED IN COMPLIANCE WITH PUBLIC LAW 94-469 (ALSO KNOWN AS THE TOXIC SUBSTANCE CONTROLACT OF 1976).

FOOTNOTES.

N/A	= NOT APPLICABLE
N/D	= NO DATA
<	= LESS THAN

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- > = GREATER THAN
- APP. = APPROXIMATE
- EST. = ESTIMATE

FOR TECHNICAL ASSISTANT PLEASE CONTACT MI CHLOR-ALKALI, INC. AT:

1 HOUSTON CENTER, SUITE 3555
HOUSTON, TX 77010-2009
1-888-228-7842

THIS DOCUMENT PREPARED BY:
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