



KENCRO

CHEMICALS

SULPHURIC ACID REAGENT

MATERIAL SAFETY DATA SHEET

SECTION 1: PRODUCT AND COMPANY INFORMATION

PRODUCT IDENTIFIER: SULPHURIC ACID REAGENT
PRODUCT USE: REFER TO TECHNICAL LITERATURE
CHEMICAL FAMILY: MINERAL ACIDS
SUPPLIER'S NAME AND ADDRESS: KENCRO CHEMICALS LIMITED
2172 WYECROFT RD., UNIT #4
OAKVILLE, ON
L6L 5V6
905-827-4133
24 HR. EMERGENCY NUMBER: 613-996-6666 (CANUTEC)

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENTS	C.A.S. #	WT.%	LC50 (RAT, IHL)	LD50 (ORAL, RAT)
SULPHURIC ACID	7664-93-9	96	347ppm (1 hour)	2140mg/kg

SECTION 3: HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

CLEAR TO SLIGHTLY CLOUDY, OILY LIQUID. ODOURLESS TO SLIGHTLY PUNGENT.
DANGER! CONTACT WITH METALS MAY RELEASE SMALL AMOUNTS OF FLAMMABLE HYDROGEN GAS.
TOXIC FUMES MAY BE RELEASED DURING A FIRE. REACTS VIOLENTLY WITH WATER AND OTHER ORGANIC MATERIALS WITH EVOLUTION OF HEAT.
CORROSIVE LIQUID. CAUSES EYE, SKIN AND DIGESTIVE TRACT BURNS. SEVERE RESPIRATORY IRRITANT.
POISON! MAY BE FATAL IF INHALED.
PROLONGED INHALATION OF AN INGREDIENT(S) IN THIS PRODUCT MAY CAUSE EDEMA OF THE LUNGS AND/OR LUNG DAMAGE.

SIGNS AND SYMPTOMS OF SHORT-TERM EXPOSURE:

SKIN CONTACT: CORROSIVE. CONTACT WITH LIQUID, MIST OR VAPOUR CAN CAUSE IMMEDIATE IRRITATION, REDNESS, PAIN OR CORROSIVE BURNS TO ALL HUMAN TISSUES. SEVERITY OF THE BURN IS GENERALLY DETERMINED BY THE CONCENTRATION OF THE SOLUTION AND DURATION OF EXPOSURE.

SKIN ABSORPTION: N/AV.

EYE CONTACT: CORROSIVE. CONTACT WITH EYES MAY RESULT IN PERMANENT VISUAL LOSS UNLESS REMOVED QUICKLY BY THOROUGH IRRIGATION WITH WATER CAN CAUSE BLURRED VISION, REDNESS, PAIN AND SEVERE BURNS. PERSONS WITH PRE-EXISTING EYE PROBLEMS MAY BE MORE SUSCEPTIBLE TO THE EFFECTS OF THE SUBSTANCE.

INHALATION: INHALATION OF CONCENTRATED VAPOUR OR MIST MAY DAMAGE MUCOUS MEMBRANES AND RESPIRATORY TRACT. SYMPTOMS MAY INCLUDE IRRITATION OF THE NOSE AND THROAT, AND LABOURED BREATHING. MAY CAUSE LUNG EDEMA, A MEDICAL EMERGENCY. PERSONS WITH PRE-EXISTING EYE PROBLEMS MAY BE MORE SUSCEPTIBLE TO THE EFFECTS OF THE SUBSTANCE.

INGESTION: CORROSIVE. SWALLOWING CAN CAUSE SEVERE BURNS OF THE MOUTH, THROAT AND STOMACH AND MAY BE FATAL. CAN CAUSE SORE THROAT, VOMITING AND DIARRHEA. CIRCULATORY COLLAPSE WITH CLAMMY SKIN, WEAK AND RAPID PULSE, SHALLOW RESPIRATIONS AND SCANTY URINE MAY FOLLOW INGESTION OR SKIN CONTACT. CIRCULATORY SHOCK IS OFTEN THE IMMEDIATE CAUSE OF DEATH.

POTENTIAL CHRONIC HEALTH EFFECTS:

REPEATED SKIN CONTACT WITH DILUTE SOLUTIONS MAY CAUSE DERMATITIS. MAY CAUSE DENTAL EROSION. AT HIGHER CONCENTRATIONS, EXPOSURE CAN LEAD TO SEVERE INFLAMMATION OF RESPIRATORY TRACT. REPEATED EXPOSURE MAY CAUSE CHRONIC BRONCHITIS, PULMONARY EDEMA AND EROSION AND DISCOLOURATION OF TEETH.

OTHER IMPORTANT HAZARDS:

CHRONIC EXPOSURE TO MISTS CONTAINING SULPHURIC ACID IS A CANCER HAZARD.

SECTION 4: FIRST AID MEASURES

INHALATION: REMOVE VICTIM TO FRESH AIR. IF NOT BREATHING, PERFORM ARTIFICIAL RESPIRATION. GET MEDICAL ATTENTION.

SKIN CONTACT: WIPE OFF EXCESS. FLUSH IMMEDIATELY WITH WATER FOR AT LEAST 15 MINUTES WHILE REMOVING CONTAMINATED CLOTHING. GET IMMEDIATE MEDICAL ATTENTION. WASH CLOTHING BEFORE RE-USE. DESTROY CONTAMINATED SHOES.

EYE CONTACT: FLUSH IMMEDIATELY WITH WATER FOR AT LEAST 15 MINUTES. FORCIBLY HOLD EYELIDS APART TO ENSURE COMPLETE IRRIGATION OF EYE/LID TISSUE. GET IMMEDIATE MEDICAL ATTENTION.

INGESTION: DRINK COPIUS AMOUNTS OF WATER OR MILK. DO NOT INDUCE VOMITING. GET IMMEDIATE MEDICAL ATTENTION. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

SECTION 5: FIRE FIGHTING MEASURES

FIRE HAZARDS/CONDITION OF FLAMMABILITY:

NOT FLAMMABLE. MAY IGNITE COMBUSTIBLE MATERIALS.

FLASH POINT: N/AP.
FLASH POINT METHOD: CLOSED CUP METHOD **AUTO IGNITION TEMPERATURE:** N/AV.
LOWER FLAMMABLE LIMIT: N/AV. **UPPER FLAMMABLE LIMIT:** N/AV.
(% BY VOL.) (% BY VOL.)

OXIDIZING PROPERTIES: NONE KNOWN

FLAME PROJECTION LENGTH: N/AP.

EXPLOSION DATA: SENSITIVITY TO MECHANICAL IMPACT/STATIC DISCHARGE:

NOT EXPECTED TO BE SENSITIVE TO MECHANICAL IMPACT OR STATIC DISCHARGE.

SUITABLE EXTINGUISHING MEDIA:

USE DRY CHEMICAL, FOAM OR CO₂ FIRE EXTINGUISHERS TO FIGHT SURROUNDING FIRE. DO NOT USE WATER ON ACID ITSELF. HOWEVER, WATER SPRAY MAY BE USED TO KEEP FIRE EXPOSED CONTAINERS COOL. APPLY FROM FARTHEST POSSIBLE DISTANCE.

SPECIAL FIRE-FIGHTING PROCEDURES/EQUIPMENT:

WEAR SELF-CONTAINED BREATHING APPARATUS AND FULL PROTECTIVE CLOTHING. COOL EXTERIOR OF STORAGE TANKS.

HAZARDOUS COMBUSTION PRODUCTS:

VIOLENT REACTION WITH WATER. EVOLUTION OF EXPLOSIVE HYDROGEN GAS ON CONTACT WITH MOST METALS. WILL REACT WITH ORGANIC MATERIAL WITH EVOLUTION OF HEAT AND DENSE WHITE FUMES. SULPHURIC ACID DECOMPOSITION MAY RESULT IN THE RELEASE OF TOXIC GASES (SULPHURIC ACID FUMES, SULPHUR DIOXIDE, CARBON MONOXIDE).

SECTION 6: ACCIDENTAL RELEASE MEASURES

LEAK AND SPILL PROCEDURES:

UTILIZE FULL PROTECTIVE CLOTHING, INCLUDING BOOTS AND PROTECTIVE EQUIPMENT. CONTAIN SPILL IN ORDER TO PREVENT CONTAMINATION OF SEWAGE SYSTEM OR WATERWAY. PUMP INTO MARKED CONTAINERS FOR RECLAMATION OR DISPOSAL. IF POSSIBLE, NEUTRALIZE ON A DRY BASIS WITH SUITABLE ALKALI SUCH AS LIME OR SODA ASH; THEN FLUSH WITH WATER IN ACCORDANCE WITH APPLICABLE REGULATIONS.

SECTION 7: HANDLING AND STORAGE

SAFE HANDLING PROCEDURES:

DO NOT ADD WATER TO CONCENTRATED ACID. WHEN DILUTING, SLOWLY ADD ACID TO WATER WHILE STIRRING, TO AVOID SPATTERING, BOILING AND ERUPTION. WASH THOROUGHLY AFTER HANDLING.

STORAGE REQUIREMENTS:

STORE AWAY FROM SOURCES OF IGNITION. STORE IN A COOL, DRY VENTILATED STORAGE AREA WITH ACID RESISTANT FLOORS AND GOOD DRAINAGE. KEEP CONTAINER CLOSED AND PROTECT FROM CONTACT WITH WATER. PROTECT CONTAINER FROM PHYSICAL DAMAGE.

DO NOT STRIKE CONTAINERS OR FITTINGS WITH TOOLS. EMPTIED CONTAINER WILL RETAIN VAPOUR AND PRODUCT RESIDUE.

INCOMPATIBLE MATERIALS:

REACTIVE WITH MATERIALS SUCH AS METALS, METAL OXIDES, HYDROXIDES, NITRATES, AMINES, CARBONATES AND OTHER ALKALINE MATERIALS. REACTIONS CAN GENERATE A GREAT DEAL OF HEAT AS DOES THE DILUTION OF ACID WITH WATER. CONCENTRATED ACID IS A STRONG OXIDIZING AGENT. MAY CAUSE IGNITION OF COMBUSTIBLE MATERIALS ON CONTACT WITH GENERATION OF SULPHUR DIOXIDE FUMES. AVOID OPEN FLAMES OR SPARKS.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

EXPOSURE LIMITS

INGREDIENTS	ACGIH TLV		OSHA PEL	
	TWA	STEL	PEL	IDHL
SULPHURIC ACID	1mg/m ³ , (8 hours)	3mg/m ³	1mg/m ³ , (8 hours)	80mg/m ³

SEE COMPOSITION/INFORMATION ON INGREDIENTS, SECTION 2.

ENGINEERING CONTROLS:

PROVIDE VENTILATION TO CONTROL EXPOSURE LEVELS BELOW AIRBORNE EXPOSURE LIMITS. USE LOCAL EXHAUST VENTILATION.

GLOVES/TYPE:

WEAR IMPERVIOUS RUBBER GLOVES.

RESPIRATORY/TYPE:

USE NIOSH/MSHA APPROVED, FULL FACE RESPIRATOR WITH CANISTER APPROVED FOR SULPHURIC ACID VAPOUR AND MIST. CONSULT RESPIRATOR MANUFACTURER TO DETERMINE APPROPRIATE EQUIPMENT. IF CONCENTRATIONS ARE HIGH TO UNKNOWN, USE SELF-CONTAINED BREATHING APPARATUS.

EYE/TYPE:

WEAR SPLASH PROOF CHEMICAL SAFETY GOGGLES. EYEWASH FOUNTAINS RECOMMENDED IN ALL STORAGE AND HANDLING AREAS. DO NOT WEAR CONTACT LENSES.

FOOTWEAR/TYPE:

RUBBER FOOTWEAR SHOULD BE USED.

CLOTHING/TYPE:

WEAR PROTECTIVE CLOTHING TO PREVENT SKIN CONTACT. ACID-RESISTANT HOOD AND FULL BODY SUIT RECOMMENDED.

OTHER/TYPE:

SAFETY SHOWER RECOMMENDED IN ALL STORAGE AND HANDLING AREAS. AVOID BREATHING FUMES. USE GLOVES WHEN HANDLING. REMOVE AND CHANGE CONTAMINATED CLOTHING IMMEDIATELY.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE:	OILY LIQUID	APPEARANCE:	CLEAR TO SLIGHTLY CLOUDY
ODOUR:	ODOURLESS TO SLIGHTLY PUNGENT		
ODOUR THRESHOLD:	N/AV.		
PH:	<1	BOILING POINT:	308°C
SPECIFIC GRAVITY:	1.843	MELTING/FREEZING POINT:	-14°C
COEFFICIENT OF WATER/OIL		SOLUBILITY IN WATER:	COMPLETELY MISCIBLE
DISTRIBUTION:	N/AV.	VAPOUR DENSITY (AIR=1):	NO INFORMATION
EVAPOURATION RATE:	<1	VAPOUR PRESSURE (mmHg):	98% = 0.002
MOLECULAR WEIGHT:	98.07		
MOLECULAR FORMULA:	H ₂ SO ₄		

SECTION 10: REACTIVITY AND STABILITY DATA

STABILITY AND REACTIVITY:

STABLE UNDER THE RECOMMENDED STORAGE AND HANDLING CONDITIONS PRESCRIBED.

CONDITIONS TO AVOID:

REACTIVE WITH MATERIALS SUCH AS METALS, METAL OXIDES, HYDROXIDES, NITRATES, AMINES, CARBONATES AND OTHER ALKALINE MATERIALS. REACTIONS CAN GENERATE A GREAT DEAL OF HEAT AS DOES THE DILUTION OF ACID WITH WATER. CONCENTRATED ACID IS A STRONG OXIDIZING AGENT. MAY CAUSE IGNITION OF COMBUSTIBLE MATERIALS ON CONTACT WITH GENERATION OF SULPHUR DIOXIDE FUMES. AVOID OPEN FLAMES OR SPARKS.

HAZARDOUS DECOMPOSITION PRODUCTS:

EXPLOSIVE HYDROGEN GAS IS GENERATED BY THE ACTION OF ACID ON MOST METALS AND MAY ACCUMULATE IN METAL CONTAINERS. RELEASES SULPHUR DIOXIDE AT EXTREMELY HIGH TEMPERATURES. TOXIC FUMES OF OXIDES OF SULPHUR WHEN HEATED TO DECOMPOSITION. WILL REACT WITH WATER OR STREAM TO PRODUCE TOXIC AND CORROSIVE FUMES. REACTS WITH CARBONATES

TO GENERATE CARBON DIOXIDE GAS, AND WITH CYANIDES AND SULFIDES TO FORM POISONOUS HYDROGEN CYANIDE AND HYDROGEN SULFIDE RESPECTIVELY.

SECTION 11: TOXICOLOGICAL INFORMATION

- TOXICOLOGICAL DATA:** THERE IS NO AVAILABLE DATA FOR THE PRODUCT ITSELF, ONLY FOR THE INGREDIENTS. REFER TO SECTION 2 FOR INDIVIDUAL INGREDIENT LD50'S AND LC50'S.
- CARCINOGENIC STATUS:** INTERNATIONAL AGENCY OF RESEARCH ON CANCER (IARC) HAS CLASSIFIED "STRONG INORGANIC ACID MISTS CONTAINING SULPHURIC ACID" AS A CATEGORY 1 CARCINOGEN, A SUBSTANCE THAT IS "CARCINOGENIC TO HUMANS". THIS CLASSIFICATION IS FOR INORGANIC ACID MISTS ONLY AND DOES NOT APPLY TO SULPHURIC ACID OR SULPHURIC ACID SOLUTIONS.
- REPRODUCTIVE EFFECTS:** NOT EXPECTED TO HAVE OTHER REPRODUCTIVE EFFECTS.
- TERATOGENICITY:** NOT EXPECTED TO BE A TERATOGEN.
- MUTAGENICITY:** NOT EXPECTED TO BE MUTAGENIC IN HUMANS.
- SENSITIZATION TO MATERIAL:** NOT EXPECTED TO BE A SKIN OR RESPIRATORY SENSITIZER.
- SYNERGISTIC MATERIALS:** N/AV.
- MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE:** REPEATED SKIN CONTACT WITH DILUTE SOLUTIONS MAY CAUSE DERMATITIS. MAY CAUSE DENTAL EROSION.
- ADDITIONAL HEALTH HAZARDS:** NONE KNOWN OR REPORTED BY THE MANUFACTURER.

SECTION 12: ECOLOGICAL INFORMATION

- ENVIRONMENTAL EFFECTS:** THE PRODUCT SHOULD NOT BE ALLOWED TO ENTER DRAINS OR WATER COURSES, OR BE DEPOSITED WHERE IT CAN AFFECT GROUND OR SURFACE WATERS. MAY BE DANGEROUS FOR THE ENVIRONMENT. TOXICITY IS PRIMARILY ASSOCIATED WITH pH.
- IMPORTANT ENVIRONMENTAL CHARACTERISTICS:** NO DATA IS AVAILABLE ON THE PRODUCT ITSELF.
- ECOTOXICOLOGICAL:** NO DATA IS AVAILABLE ON THE PRODUCT ITSELF.
- TOXICITY TO FISH:**
LC50/96H/RAINBOW TROUT = 2.8 µg/L
LC50/96H/BLUEGIL SUNFISH = 10.5 PPM

SECTION 13: DISPOSAL CONSIDERATIONS

- HANDLING FOR DISPOSAL:** HANDLE WASTE ACCORDING TO RECOMMENDATIONS IN SECTION 7. EMPTY CONTAINERS RETAIN RESIDUE (LIQUID AND/OR VAPOUR) AND CAN BE DANGEROUS. CONSIDER THE COLLECTION OF RESIDUAL SULPHURIC ACID INTO CONTAINERS FOR RECLAMATION OR DISPOSAL ONLY IF THE CONTAINER IS SUITABLE TO WITHSTAND THE MATERIAL.
- METHOD OF DISPOSAL:** DISPOSE OF IN ACCORDANCE WITH FEDERAL, PROVINCIAL AND LOCAL HAZARDOUS WASTE LAWS.

SECTION 14: TRANSPORTATION INFORMATION

- PROPER SHIPPING NAME:** SULPHURIC ACID
(REAGENT GRADE) 96%
- TDG CLASSIFICATION:** CLASS 8, UN1830, PACKING GROUP II

SECTION 15: REGULATORY INFORMATION

- WHMIS CLASSIFICATION:** CLASS DIA (MATERIALS CAUSING IMMEDIATE AND SERIOUS TOXIC EFFECTS, VERY TOXIC MATERIAL.)
CLASS E (CORROSIVE MATERIAL)

SECTION 16: OTHER INFORMATION

LEGEND:	ACGIH	AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS
	CAS	CHEMICAL ABSTRACT SERVICES
	IARC	INTERNATIONAL AGENCY FOR RESEARCH ON CANCER
	IDHL	IMMEDIATELY DANGEROUS TO HEALTH OR LIFE
	LC	LETHAL CONCENTRATION
	LD	LETHAL DOSE
	MSHA	MINE SAFETY AND HEALTH ADMINISTRATION
	N/AP.	NOT APPLICABLE
	N/AV.	NOT AVAILABLE
	NIOSH	NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH
	OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
	PEL	PERMISSIBLE EXPOSURE LIMIT
	STEL	SHORT TERM EXPOSURE LIMIT
	TDG	TRANSPORTATION OF DANGEROUS GOODS ACT/REGULATIONS
	TLV	THRESHOLD LIMIT VALUE
	TWA	TIME-WEIGHTED AVERAGE
	WHMIS	WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM

PREPARED BY: KENCRO CHEMICALS LIMITED
TEL: 905-827-4133
FAX: 905-827-4145

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