MATERIAL SAFETY DATA SHEET

8-31-05

MSDS DATE: 4/07/92 CHANGE NO.: 8745 For Assistance, Contact: Regulatory Affairs Dept. PO Box 907 Ames, IA 50010 (800) 227-4224

HACH COMPANY PO BOX 907 AMES, IA 50010

Emergency Telephone # Rocky Mountain Poison Ctr. (303) 623-5716

PO#: QE 1781 HACH ORDER#: 597685

I. PRODUCT IDENTIFICATION

PRODUCT NAME: Sulfuric Acid Standard Solution 0.035N

CAS NO.: NA

CHEMICAL NAME: Not applicable

FORMULA: Not applicable

CHEMICAL FAMILY: Not applicable

II. INGREDIENTS

Isopropanol

Sulfuric Acid

PCT: <1 CAS NO.: 7664-93-9 SARA: LISTED TLV: 1 mg/M3 PEL: 1 mg/M3

RCRA: D002

HAZARD: Very corrosive

Demineralized Water

PCT: to 100 CAS NO.: 7732-18-5 ... SARA: NOT LISTED TUV: Not applicable PEL: Not applicable

HAZARD: None

III. PHYSICAL DATA

STATE: liquid APPEARANCE: Clear and colorless ODOR: Isopropanol SOLUBILITY IN: WATER: Miscible ACID: Miscible OTHER: Not determined BOILING POINT: 89C MELTING PT.: fr. -1C SPEC GRAVITY: 0.9943 pH: 1.6 VAPOR PRESSURE: Not determined VAPOR DENSITY (air=1): ND EVAPORATION RATE: 0.86 METAL CORROSIVITY - ALUMINUM: 0.041 in/yr STEEL: 0.055 in/yr STABILITY: See Conditions to Avoid STORAGE PRECAUTIONS: Store tightly closed in a cool, dry place.

IV. FIRE, EXPLOSION HAZARD AND REACTIVITY DATA

FLASH PT.: >212F METHOD: closed cup
FLAMMABILITY LIMITS - LOWER: ND UPPER: ND
SUSCEPTIBILITY TO SPONTANEOUS HEATING: None
SHOCK SENSITIVITY: None AUTOIGNITION PT.: ND
EXTINGUISHING MEDIA: water, carbon dioxide, or dry chemical
FIRE/EXPLOSION HAZARDS: May emit toxic fumes in fire
HAZARDOUS DECOMP. PRODUCTS: May emit toxic fumes of carbon monoxide, carbon
dioxide and sulfur oxides in fire
OXIDIZER: No NFPA Codes: Health: 1 Flammability: 1 Reactivity: 0
CONDITIONS TO AVOID: Heat, flame, oxidizers

V. HEALTH HAZARD DATA

THIS PRODUCT MAY BE: irritating to eyes and skin.

ACUTE TOXICITY: Not determined
ROUTES OF EXPOSURE: ingestion, inhalation
TARGET ORGANS: central nervous system

CHRONIC TOXICITY: Not determined
ROUTES OF EXPOSURE: Not determined
TARGET ORGANS: Not determined
CANCER INFORMATION: Carcinogenicity testing was inconclusive for an ingradient of this mixture.
ROUTES OF EXPOSURE: Not determined
TARGET ORGANS: Not determined
OVEREXPOSURE: Headache, weakness, drowsiness, lightheadedness, nausea, vomiting, irritation of the eyes and skin, unconsciousness
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Pre-existing skin disorders, impaired pulmonary function such as obstructive airway diseases

VI. PRECAUTIONARY MEASURES

Wash thoroughly after handling.

Avoid contact with eyes, skin and clothing

Do not breathe mist or vapor.

PROTECTIVE EQUIPMENT: adequate ventilation, lab grade goggles, disposable gloves

VII. FIRST AID

EYE AND SKIN CONTACT: Immediately flush eyes and skin with water for 15 minutes. Remove contaminated clothing. Call physician.
INGESTION: Do not induce vomiting. Call physician immediately.
INHALATION: Remove to fresh air.

VIII. SPILL AND DISPOSAL PROCEDURES

IN CASE OF SPILL OR RELEASE: Absorb on paper. Burn in a chemical incinerator equipped with an afterburner and scrubber.

DISPOSE OF IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS.

IX. TRANSPORTATION DATA

D.O.T. PROPER SHIPPING NAME: Not Currently Regulated HAZARD CLASS: Not applicable ID: NA

I.C.A.O. PROPER SHIPPING NAME: Not Currently Regulated HAZARD CLASS: NA ID: NA GROUP: NA

I.M.O. PROPER SHIPPING NAME: Not Currently Regulated HAZARD CLASS: NA ID: NA GROUP: NA

X. REFERENCES

- TLV's Threshold Limit Values and Biological Exposure Indices for 1988-1989. American Conference of Governmental Industrial Hygienists, 1988.
- 2) Air Contaminants, Federal Register, Vol. 54, No. 12, Thursday, January 19, 1989. pp. 2332-2983.
- 3) In-house information
- 4) Technical judgment
- Fire Protection Guide on Hazardous Materials, 9th Ed. Quincy, MA: National Fire Protection Association, 1986.
- NIOSH/OSHA Occupational Health Guidelines for Chemical Hazards. Cincinnati: Department of Health and Human Services, 1981.
- Sax, N. Irving. Dangerous Properties of Industrial Materials, 6th Ed. New York: Van Nostrand Reinhold Co. 1984.