Page 1 of 8

COMPANY IDENTITY: PRODUCT IDENTITY:

Univar SULFURIC ACID 93%

SDS NUMBER:

CDS-2441

SDS DATE: 01/15/2015 ORIGINAL: 01/15/2015

SAFETY DATA SHEET

This Safety Data Sheet conforms to ANSI Z400.5, and to the format requirements of the Global Harmonizing System.

THIS SDS COMPLIES WITH 29 CFR 1910.1200 (HAZARD COMMUNICATION STANDARD) IMPORTANT: Read this SDS before handling & disposing of this product.

Pass this information on to employees, customers, & users of this product.

SECTION 1. IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER

PRODUCT IDENTITY: SULFURIC ACID 93%

PRODUCT USES:

Mineral Acid

COMPANY IDENTITY: Univar COMPANY ADDRESS: 17425 NE Union Hill Road

Redmond, WA 98052 1-425-889-3400

COMPANY CITY: COMPANY PHONE:

EMERGENCY PHONES: CHEMTREC: 1-800-424-9300 (USA) CANUTEC: 1-613-996-6666 (CANADA)

SECTION 2. HAZARDS IDENTIFICATION

DANGER!!

2.1 HAZARD STATEMENTS: (CAT = Hazard Category) (H200s) PHYSICAL: Corrosive To Metals: H290 MAY BE CORROSIVE TO METALS.(CAT:1) (H300s) HEALTH: Skin Corrosion/Irritation: H314 CAUSES SEVERE SKIN BURNS AND EYE DAMAGE.(CAT:1) (H300s) HEALTH: Acute Toxicity, Inhalation: H332 HARMFUL IF INHALED.(CAT:4)

P304+340

If INHALED: Remove VICTIM to Tresh air & Reep at rest in a positi comfortable for breathing.

P305+351+338

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present & easy to do - Continue rinsing.

P310

Immediately call a POISON CENTER or doctor/physician.

P363

Wash contaminated clothing before reuse.

Absorb spillage to prevent material damage.

P404 Store in a closed container.

P405 Store locked up.

P501 Dispose of contents/container to an approved waste disposal plant.

SEE SECTIONS 8, 11 & 12 FOR TOXICOLOGICAL INFORMATION.

Page 3 of 8

COMPANY IDENTITY: PRODUCT IDENTITY:

Univar

SDS NUMBER:

SULFURIC ACID 93%

CDS-2441

SDS DATE: 01/15/2015 ORIGINAL: 01/15/2015

SECTION 5. FIRE FIGHTING MEASURES (CONTINUED)

5.4 SPECIFIC HAZARDS OF CHEMICAL & HAZARDOUS COMBUSTION PRODUCTS: SLIGHTLY COMBUSTIBLE!

Reacts with most metals producing hydrogen which is extremely flammable & may explode. Keep container tightly closed. Isolate from oxidizers, alkalis, heat, & open flame. Applying to hot surfaces requires special precautions. Closed containers may explode if exposed to extreme heat. Continue all label precautions!

SECTION 6. ACCIDENTAL RELEASE MEASURES

- 6.1 SPILL AND LEAK RESPONSE AND ENVIRONMENTAL PRECAUTIONS: Uncontrolled releases should be responded to by trained personnel using pre-planned procedures. Proper protective equipment should be used. In case of a spill, clear the affected area, protect people, and respond with trained personnel. ELIMINATE all ignition sources (no smoking, flares, sparks, or flames in immediate area). Prevent additional discharge of material, if possible to do so without hazard. For large spillse, implement cleanup procedures and, if in public area, advise authorities.
- 6.2 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT, EMERGENCY PROCEDURES:
 The proper personal protective equipment for incidental releases (such as: 1 Liter of the product released in a well-ventilated area), use impermeable gloves, they should be Level B: triple-gloves (rubber gloves and nitrile gloves over latex gloves), chemical resistant suit and boots, hard-hat, and Self-Contained Breathing Apparatus specific for the material handled, goggles, face shield, and appropriate body protection. In the event of a large release, use impermeable gloves, specific for the material handled, chemically resistant suit and boots, and hard hat. Self-Contained Breathing Apparatus or respirator may be required where engineering controls are not adequate or conditions for potential exposure exist. When respirators are required, select NIOSH/MSHA approved based on actual or potential airborne concentrations in accordance with latest OSHA and/or ANSI recommendations. recommendations.
- 6.3 ENVIRONMENTAL PRECAUTIONS: Stop spill at source. Construct temporary dikes of dirt, sand, or any appropriate readily available material to prevent spreading of the material. Close or cap valves and/or block or plug hole in leaking container and transfer to another container. Keep from entering storm sewers and ditches which lead to waterways, and if necessary, call the local fire or police department for immediate emergency assistance.
- 6.4 METHODS AND MATERIAL FOR CONTAINMENT & CLEAN-UP:
 Absorb spilled liquid with polypads or other suitable absorbent materials. If necessary, neutralize using suitable buffering material, (acid with soda ash or base with phosphoric acid), and test area with litmus paper to confirm neutralization. Clean up with non-combustible absorbent (such as: sand, soil, and so on). Shovel up and place all spill residue in suitable containers. dispose of at an appropriate waste disposal facility according to current applicable laws and regulations and product characteristics at time of disposal (see Section 13 Disposal Considerations).

SECTION 7. HANDLING AND STORAGE

- 7.1 PRECAUTIONS FOR SAFE HANDLING:
 Isolate from oxidizers, alkalis, heat, & open flame. Use only with adequate ventilation.
 Do not get in eyes, on skin or clothing. Wear OSHA Standard full face shield. Consult Safety
 Equipment Supplier. Wear goggles, face shield, gloves, apron & footwear impervious to material.
 Wash clothing before reuse. Continue all label precautions! NEVER pour water into this substance. When dissolving or diluting, always add it slowly to the water.
- 7.2 CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES:
 Keep separated from strong oxidants, strong bases, combustible & reducing substances, metals, food & feedstuffs, incompatible materials. May be stored in stainless steel containers.
 See: Section 10, <Materials to Avoid>. Do not store above 49 C/120 F.
 Keep container tightly closed & upright when not in use to prevent leakage.
 Reacts with most metals producing hydrogen which is extremely flammable & may explode.
 Wear full face shield, gloves & full protective clothing when opening or handling.
 When empty, drain completely, replace bungs securely.
- 7.3 NONBULK: CONTAINERS: .3 NONBULK: CONIAINERS:
 Tore containers in a cool, dry location, away from direct sunlight, sources of intense heat, or where freezing is possible. Material should be stored in secondary containers or in a diked area, as appropriate. Store containers away from incompatible chemicals (see Section 10, Stability and Reactivity). Post warning and "NO SMOKING" signs in storage and use areas, as appropriate. Empty containers should be handled with care. Never store food, feed, or drinking water in containers which held this product.

SDS_DATE: 01/15/2015

ORIGINAL: 01/15/2015

Page 5 of 8

COMPANY IDENTITY: Univar PRODUCT IDENTITY: SULFURIC ACID 93%

SDS NUMBER: CDS-2441

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION (CONTINUED)

VENTILATION
LOCAL EXHAUST: Necessary MECHANICAL (GENERAL): Necessary
SPECIAL: None OTHER: None
Please refer to ACGIH document, "Industrial Ventilation, A Manual of
Recommended Practices", most recent edition, for details.

8.3 INDIVIDUAL PROTECTION MEASURES, SUCH AS PERSONAL PROTECTIVE EQUIPMENT: EYE PROTECTION:

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts. If contact is possible, chemical splash goggles should be worn, when a higher degree of protection is necessary, use splash goggles or safety glasses. Face-shields are recommended when the operation can generate splashes, sprays or mists.

HAND PROTECTION:

Use gloves chemically resistant to this material. Preferred examples: Butyl rubber, Chlorinated Polyethylene, Polyethylene, Ethyl vinyl alcohol laminate ("EVAL"), Polyvinyl alcohol ("PVA"). Examples of acceptable glove barrier materials include:
Natural rubber ("latex"), Neoprene, Nitrile/butadiene rubber ("nitril") or ("NBR"), Polyvinyl chloride ("PVC") or "vinyl"), Viton. Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

BODY PROTECTION:

Use body protection appropriate for task. Cover-all, rubber aprons, or chemical protective clothing made from impervious materials are generally acceptable, depending on the task.

WORK & HYGIENIC PRACTICES:

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using toilet facilities and at the end of the working period. Provide readily accessible eye wash stations & safety showers. Remove clothing that becomes contaminated. Destroy contaminated leather articles. Launder or discard contaminated clothing.

SECTION 9. PHYSICAL & CHEMICAL PROPERTIES

```
Oily Liquid, Water-White to slightly yelloow
 APPEARANCE:
ODOR:
ODOR THRESHOLD:
                                                                                                                                             None
                                                                                                                                             Not Available
ODOR THRESHOLD:
pH (Neutrality):
MELTING POINT/FREEZING POINT:
BOILING RANGE (IBP,Dry Point):
FLASH POINT (TEST METHOD):
EVAPORATION RATE (n-Butyl Acetate=1):
FLAMMABILITY CLASSIFICATION:
LOWER FLAMMABLE LIMIT IN AIR (% by vol):
UPPER FLAMMABLE LIMIT IN AIR (% by vol):
VAPOR PRESSURE (mm of Hg)@20 C
VAPOR DENSITY (air=1):
GRAVITY @ 68/68F / 20/20C:
DENSITY:
SPECIFIC GRAVITY (Water=1):
                                                                                                                                             -29 C / -20 F
276 to 281 C / 528 to 538 F
Not Applicable
                                                                                                                                              Not Applicable
                                                                                                                                             Noncombustible
                                                                                                                                              10.0 (Lowest Component)
                                                                                                                                             Not Available
                                                                                                                                             < 0.3
3.4
                                                                                                                                             1.830
         SPECIFIC GRAVITY (Water=1): POUNDS/GALLON:
                                                                                                                                              1.835
                                                                                                                                              15.3
                                                                                                                                             Complete
WATER SOLUBILITY:
PARTITION COEFFICIENT (n-Octane/Water):
AUTO IGNITION TEMPERATURE:
DECOMPOSITION TEMPERATURE:
                                                                                                                                             Not Available
Not Applicable
                                                                                                                                             Not Available
DECOMPOSITION TEMPERATURE:

VOCs (>0.044 Lbs/Sq In):

OITOTAL VOC'S (TVOC)*:

NONEXEMPT VOC'S (CVOC)*:

HAZARDOUS AIR POLLUTANTS (HAPS):

NONEXEMPT VOC PARTIAL PRESSURE (mm of Hg @ 20 C)

VISCOSITY @ 100 C (ASTM D445) 514.0

VISCOSITY @ 20 C (ASTM D445):

* Using CARB (California Air Resources Board Rules).
                                                                                                                                             0.0 Vol% /0.0 g/L / 0.000 Lbs/Gal
                                                                                                                                             Not Available
```

UNIVAR USA INC. ISSUE DATE:2015-01-15 Annotation:

Page 7 of 8

COMPANY IDENTITY: PRODUCT IDENTITY:

Univar SULFURIC ACID 93%

SDS NUMBER:

CDS-2441

SDS DATE: 01/15/2015 ORIGINAL: 01/15/2015

SECTION 11. TOXICOLOGICAL INFORMATION (CONTINUED)

A MUTAGEN is a chemical which causes permanent changes to genetic material (DNA) such that the changes will propagate across generational lines. An EMBRYOTOXIN is a chemical which causes damage to a developing embryo (such as: within the first 8 weeks of pregnancy in humans), but the damage does not propagate across generational lines. A TERATOGEN is a chemical which causes damage to a developing fetus, but the damage does not propagate across generational lines. A REPRODUCTIVE TOXIN is any substance which interferes in any way with the reproductive process.

11.4 MAMMALIAN TOXICITY INFORMATION

LD50 (Oral, Acute): LC50 / 2 hours:

2140 mg/kg (Rat) 510 mg/m³ (Rat), 320 mg/m³ (Mouse)

SECTION 12. ECOLOGICAL INFORMATION

12.1 ALL WORK PRACTICES MUST BE AIMED AT ELIMINATING ENVIRONMENTAL CONTAMINATION.

12.2 EFFECT OF MATERIAL ON PLANTS AND ANIMALS:
This product may be harmful or fatal to plant and animal life if released into the environment. Refer to Section 11 (Toxicological Information) for further data on the effects of this product's components on test animals.

12.3 EFFECT OF MATERIAL ON AQUATIC LIFE:
The substance is harmful to aquatic organisms.
LC50 / 48 hours: 49 mg/L, Tap Water, 20 C (Bluegill sunfish)
LC50 / 48 hours: 100 - 330 mg/L, Aerated Water (Flounder)

12.4 MOBILITY IN SOIL
Mobility of this material has not been determined.

12.5 DEGRADABILITY

This product is completely biodegradable.

12.6 ACCUMULATION

Bioaccumulation of this product has not been determined.

SECTION 13. DISPOSAL CONSIDERATIONS

Processing, use or contamination may change the waste disposal requirements. Do not dispose of on land, in surface waters, or in storm drains. Waste should be recycled or disposed of in accordance with regulations. Large amounts should be collected for reuse or consigned to licensed hazardous waste haulers for disposal. ALL DISPOSAL MUST BE IN ACCORDANCE WITH ALL FEDERAL, STATE, PROVINCIAL, AND LOCAL REGULATIONS. IF IN DOUBT, CONTACT PROPER AGENCIES. EPA CHARACTERISTIC: D002

SECTION 14. TRANSPORT INFORMATION

MARINE POLLUTANT: No
DOT/TDG SHIP NAME: UN1830, Sulfuric acid, 8, PG-II
DRUM LABEL: (CORROSIVE)

DRUM LABEL: IATA / ICAO: IMO / IMDG:

IATA / ICAO: UN1830, Sulfuric acid, 8, PG-II IMO / IMDG: UN1830, Sulfuric acid, 8, PG-II EMERGENCY RESPONSE GUIDEBOOK NUMBER: 137



