



# Basic Chemical National Company

## MATERIAL SAFETY DATA SHEET SULFURIC ACID 98%

Page 1 of 2

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### Section 1. Material Identification

**Material Name** : Sulfuric Acid Concentrated, approximately 98% minimum and balance water.

**Chemical Formula:** H<sub>2</sub>SO<sub>4</sub>

**Synonyms** : Sulphuric Acid, Oil of Vitriol, Babcock Acid.

**Cautions** : Handle concentrated sulfuric acid with extreme caution because it is corrosive to all body tissues. Vapor inhalation cause severe lung damage. Skin or eye contact can produce severe burns; blindness may result.

**Manufacturer** : Basic Chemical National Company (BCNC) – Yanbu – Saudi Arabia

Telephone : +966 4 325 4210

Fax : +966 4 325 4360

**Distributor** : Chemical Marketing & Distribution Company (CMDC) – Dammam – Saudi Arabia

Telephone : +966 3 847 2466

Fax : +966 3 847 2648

E-Mail : [sales@cmdc.com.sa](mailto:sales@cmdc.com.sa)

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### Section 2. Ingredients and Occupational Exposure Limits

Sulfuric acid concentrated, 93-98% sulfuric acid; remainder is water

1991 OSHA PERMISSIBLE EXPOSURE LEVEL: 8 hr time weighted average : 1 mg/m<sup>3</sup>

1990 IMMEDIATELY DANGEROUS TO LIFE AND HEALTH LEVEL1 : 80 mg/m<sup>3</sup>

1992-93 ACGIH THRESHOLD LIMIT VALUE: short time exposure limit (15 minutes) : 3 mg/m<sup>3</sup>

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### Section 3. Physical Data

**Boiling Point:** 554 deg. F (290 deg. C) decomposes at 644 deg. F (340 deg. C) into sulfur trioxide and water

**Density/Specific Gravity (96-98%):** 1.841

**Water Solubility:** Soluble; reacts!\*

**Saturated Vapor Density (air):** 1.2 kg/m<sup>3</sup>, 0.075 lbs/ft<sup>3</sup>

**Odor Threshold:** 0.150 ppm

**Appearance and Odor:** Colorless (pure) to dark brown (impure), odorless, dense, oily liquid. Pure compound is a solid below 51 deg. F (11 deg. C).

\*Sulfuric acid reacts violently with water with the evolution of heat. **Always add the acid to water or other diluents, not the water to acid.**

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### Section 4. Fire and Explosion Data

**Flash Point:** Not combustible

**Auto-ignition Temperature:** None reported

**LEL:** None reported

**UEL:** None reported

**Extinguishing Media:** Use dry chemical, foam or carbon dioxide extinguishing media appropriate to surrounding fire. Only use water if absolutely necessary and use with great caution. Water applied directly to sulfuric acid results in violent heat liberation and splattering of the material. Use water spray only to keep fire-exposed containers cool.

**Unusual Fire or Explosion Hazards:** Sulfuric acid, a strong dehydrating agent, reacts with organic materials and produce highly flammable, hydrogen gas.

**Special Fire-fighting Procedures:** Because fire may produce toxic thermal decomposition products, wear a self-contained breathing apparatus (SCBA) with a full face piece operated in positive-pressure mode. Structural firefighter's protective clothing is not effective.

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### Section 5. Reactivity Data

**Conditions to Avoid:** Water, combustibles, heat, ignition sources, and other incompatibles.

**Hazardous Products of Decomposition:** Thermal oxidative decomposition of sulfuric acid can produce sulfur oxides.

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Page 2 of 2

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### Section 6. Health Hazard Data

**Summary of Risks: Concentrated sulfuric acid is a severe respiratory tract, skin and eye irritant.**

Exposure can result in severe burns, tissue damage, scarring, functional inhibition, and blindness if splashed in the eye. Although ingestion is unlikely, it may cause severe injury and death.

**Medical Conditions Aggravated by Long-Term Exposure:** Chronic respiratory, gastrointestinal, nervous, skin or eye diseases.

**Target Organs:** Respiratory system, eyes, skin and teeth.

#### FIRST AID

**Eyes :** Do not allow victim to rub or keep eyes tightly shut. Gently lift eyelids and flush immediately and continuously with flooding amount of water until transported to an emergency medical facility Consult and ophthalmologist immediately.

**Skin:** Quickly remove contaminated clothing. Rinse with flooding amount of water for at least 15 min. Use a 2% sodium bicarbonate solution to further neutralize any H<sub>2</sub>SO<sub>4</sub> on the skin. Wash exposed area with soap and water. For reddened or blistered skin, consult a physician.

**Inhalation:** Remove exposed person to fresh air and support breathing as needed. Consult physician.

**Ingestion:** Never give anything by mouth to an unconscious or convulsing person. Unless otherwise advised, have that *conscious* and alert person drink 1 to 2 glasses of water or milk to dilute. Do not induce vomiting! Do not attempt to neutralize the acid with sodium bicarbonate. Consult physician immediately.

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### Section 7. Spill, Leak, and Disposal Procedures

**Spill/Leak:** Notify BCNC Yanbu Plant, Tel. 04 – 325 4210 (Main Control Room) or Civil Defense 998, of spill.

Evacuate all unnecessary personnel, remove all ignition sources, and provide adequate ventilation. Cleanup personnel should wear fully-encapsulating, vapor-protective clothing to protect against inhalation and skin or eye contact. Keep water and combustibles away from release. Stop or control leak if this can be done without undue risk. Neutralize small spills with sodium bicarbonate or a mixture of soda ash/slaked lime (50/50) and place into sealed containers for disposal. If a neutralizing agent is not available, absorb spilled sulfuric acid with vermiculite, dry sand, or earth. **Never** use organic material (e.g. sawdust) to absorb spill. For large spills, dike far ahead to contain for later disposal. Neutralize waste water pH between (6 and 8).

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### Section 8. Special Protection Data

**Goggles :** Wear protective eyeglasses or chemical safety goggles, per OSHA eye-and face-protection regulations.

**Respirator :** Wear a MSHA/NOISH-approved respirator.

**Other :** Wear chemically protective gloves, boots, aprons, and gauntlets to prevent skin contact. H<sub>2</sub>SO<sub>4</sub> has a minor to moderate effect on neoprene or rubber.

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### Section 9. Special Precautions and Comments

Storage Requirements: Store in clearly labeled, steel containers in a cool, dry, well-ventilated location on an acid-resistant cement floor and away from direct sunlight, combustibles, and other reactive materials. Separate from carbides, chlorates, fulminates, nitrates, pirates, and power metals. Protect storage containers against damage and water.

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**OT Shipping Name: Sulfuric Acid**

**DOT Hazard Class: 8**

**UN No. 1830**

**CAS No. 7664-93-9**

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