

SULFURIC ACID

General Information

Synonyms: Oil of vitriol; dipping acid.

Description: Colorless, oily liquid.

Formula: H_2SO_4 .

Constants: 2^{nd} Mol. wt: 98.08, mp: $10.49^{\circ}C$, bp: $330^{\circ}C$,

d: 1.834, vap. press.: 1mm at $145.8^{\circ}C$.

Hazard Analysis

Toxic Hazard Rating:

Acute Local: Irritant 3; Ingestion 3; Inhalation 3.

Acute Systemic: U.

Chronic Local: Irritant 2; Inhalation 2.

Chronic Systemic: U.

TLV: ACGIH (recommended); 1 milligram per cubic meter of air.

Toxicology: Contact with the body results in rapid destruction of tissue, causing severe burns. No systemic effects due to continual ingestion of small amounts of this material have been noted. There are systemic effects secondary to tissue damage caused by contact with it. However, repeated contact with dilute solutions can cause a dermatitis, and repeated or prolonged inhalation of a mist of sulfuric acid can cause an inflammation of the upper respiratory tract leading to chronic bronchitis. Sensitivity to sulfuric acid or mists or vapors varies with individuals. Normally 0.125 to 0.050 ppm may be mildly annoying and 1.5 to 2.5 ppm can be definitely unpleasant. 10 to 20 ppm is unbearable.

Workers exposed to low concentrations of the vapor gradually lose their sensitivity to its irritant action. Inhalation of concentrated vapor or mists from hot acid or oleum can cause rapid loss of consciousness with serious damage to lung tissue. In concentrated form it acts as a powerful caustic to the skin destroying the epidermis and penetrating some distance into the skin and subcutaneous tissues, in which it causes necrosis. This causes great pain and if much of the skin is involved, it is accompanied by shock, collapse and symptoms similar to those seen in severe burns. The fumes or mists of this material cause coughing and irritation of the mucous membranes of the eyes and upper respiratory tract. Severe exposure may cause a chemical pneumonitis; erosion of the teeth due to exposure to strong acid fumes has been recognized in industry.

Used as a general purpose food additive; it migrates to food from packaging materials (Section 10). It is a common air contaminant (Section 4).

Fire Hazard: Moderate, by chemical reaction; a powerful oxidizer; can ignite upon contact with combustibles.

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K004161

C13226

SODIUM CARBONATE

General Information

Synonyms: Soda monohydrate; crystal carbonate.
Description: White, odorless, small crystals or crystalline powder; alkaline taste.
Formula: Na_2CO_3 .
Constants: Mol. wt: 106.00, mp: 851°C, bp: decomposes, d: 2.509 at 0°C.

Hazard Analysis

Toxic Hazard Rating:

Acute Local: Irritant 2; Ingestion 2; Inhalation 2.

Acute Systemic: U.

Chronic Local: Irritant 1.

Chronic Systemic: U.

Note: A general purpose food additive, it migrates to food from packaging materials (Section 10).

Soda Ash

This material is a white alkaline powder. Soda Ash dust will irritate the eyes if allowed to get into them. In hot humid weather it can also be irritating to the skin. This material should be handled with caution. If Soda Ash comes in contact with the body, wash it off without delay.

Soda ash is not hazardous in the normal sense; however, the usual care should be taken so as not to contact your person. It will irritate the eyes if it comes in contact. Treatment should be a flushing of the eyes with water and a report to the dispensary for further treatment.

There are no fire or explosion hazards involved with soda ash or its solution.

How brought into department and used.

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K004162

C13227

o- CHLOROPHENOL

General Information

Description: Light amber liquid.

Formula: C_6H_4OHCl

Constants: Mol wt: 128.6, bp: 174.5°C, fp: 7°C,
d: 1.256 at 25°/25°C, flash p: 147°F, vap.
press.: 1 mm at 12.1°C.

Hazard Analysis

Toxicity: See chlorinated phenols.

CHLORINATED PHENOLS

Hazard Analysis

Toxic Hazard Rating:

Acute Local: Irritant 3, Ingestion 3; Inhalation 3

Acute Systemic: Ingestion 3; Inhalation 3; Skin
absorption 3.

Chronic Local: U.

Chronic Systemic: Ingestion 3; Inhalation 3;

Skin Absorption 3.

K004163

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C13228

p-CHLOROPHENOL

General Information

Description: Needle-like, white to straw-colored
crystals: unpleasant odor.

Formula: C_6H_4ClOH .

Constants: Mol wt: 128.6, bp: 220°C, fp: 42.8°C
flahs p: 250°F, d: 1.246 at 60°/25°C, vap.
press.: 1 mm at 49.8°C.

Hazard Analysis

Toxicity: See chlorinated phenols.

CHLORINATED PHENOLS

Hazard Analysis

Toxic Hazard Rating:

Acute Local: Irritant 3, Ingestion 3; Inhalation 3.

Acute Systemic: Ingestion 3; Inhalation 3; Skin
Absorption 3.

Chronic Local: U.

Chronic Systemic: Ingestion 3; Inhalation 3; Skin
absorption 3.

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2,4-DICHLOROPHENOL

General Information

Description: Colorless Crystals.

Formula: $C_6H_4OHCl_2$.

Constants: Mol wt: 163.0, mp: 45°C, bp: 210°C,
flash p: 237°F, d: 1.383 at 60°/25°C, vap. d.:
5.62, vap press.: 1 mm at 53.0 C.

Hazard Analysis

Toxicity: Details unknown. Limited animal experiments
show moderate toxicity. See also chlorinated
phenols.

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