

Name of manufacturer: **KANTO CHEMICAL CO., INC.**
Name of section : Reagent division
Catalog and products information section
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MSDS No. 49200-71

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Product name : C O D meter B s o l u t i o n

Composition/Information on ingredients

Substance/Mixture: Mixture

| Chemical name | Composition | Chemical formula | CAS registry number |
|-----------------------------|-------------|---|---------------------|
| Ammonium Iron() sulfate | 12.0% | FeNH ₄ (SO ₄) ₂ · 12H ₂ O | 7783-83-7 |
| Sulfuric acid | 15.0% | H ₂ SO ₄ | 7664-93-9 |
| Phosphoric acid | 0.9% | H ₃ PO ₄ | 7664-38-2 |
| Silver sulfate | 0.7% | Ag ₂ SO ₄ | 10294-26-5 |
| Water | 74.4% | H ₂ O | 7732-18-5 |

UN class : 8(Corrosive substances) P.G.

UN number : 1760

Hazards Identification

Class name of hazardous chemicals for SDS in Japan: Acute toxic substances

Physical and Chemical hazards:

This solution is noncombustible, but corrodes iron, aluminium and other kinds of metal, and liberates explosive hydrogen gas.

Reacts vigorously with alkaline substances.

Adverse human health hazards:

Corrosives, and may cause burns. If contact with eyes, may cause loss of sight. If inhaled the vapor, cause cough and throat pain.

Environmental effects : Toxic to aquatic organic

First-aid measures

Eye contact : Gently rinse the affected eyes with clean water for at least 15 minutes.

Get medical treatment.

Skin contact : Wash the affected areas under tepid running water.

If necessary, get medical treatment.

Inhalation : Remove the victim from the contamination immediately to fresh air. Keep them warm and quiet, and make them blow their nose and gargle.

Ingestion : Give the victim milk or dispersed magnesium oxide solution.

Get medical treatment as soon as possible.

Fire-fighting measures**The way fire-fighting:**

In case of fire, move containers from fire areas if it can be done without risk. If it cannot be, apply water from a safe distance to cool and protect surrounding area. Firefighters should wear proper protective equipment. Dry chemical powder, carbon dioxide or dry sand should be used for small fires.

Accidental release measures

Evacuate non-essential personnel and wear proper protective equipment. Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste containers. Or, dilute with water gradually and neutralize with calcium hydroxide or sodium carbonate. Flush residual spill (area) with copious amounts of water.

Handling and storage

Handling : Avoid contact with skin or eyes. If necessary, wear appropriate protective equipment.

Avoid contact with alkaline materials.

Storage : Keep containers tightly closed, and store at a cool place. Separate from alkaline and amine materials.

Exposure control/Personal protection

Control parameters ACGIH (1996): 1mg/m³(TLV-TWA) (as phosphoric acid)
1mg/m³(TLV-TWA) (as sulfuric acid)

Engineering measures : Use with local exhaust ventilation in vapour atmospheres. Make available emergency shower and eye wash in the work area.

Personal protective equipment:

Wear gloves, goggles, aprons and gas mask for acid gas.

Physical and chemical properties

Appearance : Slight yellowish liquid, odorless

Boiling point : About 110

Melting point : About -10

Density : About 1.2(20)

Solubility in water: Miscible in all proportion

Physical hazard

Flammability : Noncombustible

Oxidizibility : Corrodes iron, aluminium and other metals, liberates explosive hydrogen gas.

Stability and reactivity : React with alkaline and amine materials.

Toxicological information

Corrosive property: If contact with skin, may cause burns, and if contact with eyes, may causes loss of sight.

Acute toxicity : If swallowed, causes vomiting, nausea, abdominal pain and diarrhoea.

rat oral LD₅₀=1,530mg/kg (as phosphoric acid)

rabbit skin LD₅₀=2,740mg/kg (as phosphoric acid)

rat oral LD₅₀=2,140mg/kg (as sulfuric acid)

Sub-chronic toxicity : Not available

Chronic toxicity : Not available

Carcinogenic effects : Not listed on IARC or NTP.

Mutagenic effects : Not available

Effects on the reproductive system : Not available

Teratogenic effects : Not available

Ecological information

Biodegradability : Not available

Bio-accumulation : Not available

Fish toxicity : TLm96 : 10-100mg/l(as sulfuric acid)

Disposal consideration

Add this solution in calcium hydroxide solution gradually and to neutralize.

After that, flash in drains with plenty pf water.

Transport information

Keep away from alkaline and amine substances.

Follow all regulations in your country.

Regulatory information

Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

References

Handbook of dangerous materials,

Guter Hommel, Springer-Verlag Tokyo (1991)

Chemical products of 12394, The Chemical Daily Co.,Ltd (1996)

Chemical dictionary, Kyoritu publishing Co.,Ltd (1963)

Dangerous Properties of Industrial Materials, 6th ed N.I.Sax

Van Nostrand Reinhold Company(1984)

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