

1. Ingestion: Acute and chronic toxic effects can result from the ingestion of excessive amounts of either salt or brine. Salt should not be used as an emetic to induce vomiting. High concentrations produce inflammatory reactions in the gastrointestinal tract and can cause vomiting, diarrhoea, convulsions and collapse. The ingestion of hypertonic solutions can cause fatal disturbance of body electrolyte and fluid balance particularly in the young and elderly. Less than a tablespoon of salt may severely poison an infant and sometimes prove fatal.

2. Composition

Sodium Chloride 99.9% minimum on dry basis. Composition by weight is 39.4% sodium and 60.6% chlorine.

3. First Aid Measures:

Inhalation: Remove patient to fresh air. Keep warm and at rest. Give drinks if desired. Ingestion: Vomiting will probably occur. Provided the patient is conscious. Give plenty of liquid to drink. Obtain immediate medical attention especially if vomiting has not occurred. Eye Contact: Irrigate with eyewash solution or water. If symptoms develop. Obtain medical help. Skin Contact: Wash with plenty of water.

4. Fire Fighting Measures: Flammability: Non-flammable

Extinguishants: Use agents suitable for type of surrounding fire (dry chemical, CO₂, water spray or foam). Special Hazards: Salt withstands temperatures up to its melting point and beyond without decomposing, but at very high temperatures (greater than approximately 800 °C) a vapour may be emitted which is particularly irritating to the eyes. Protective Equipment: As applicable to the combustion products associated with the fire.

5. Accidental Release Measures Personal Precautions: Avoid prolonged contact with the skin and inhalation of dust concentrations, otherwise normal good handling and housekeeping practice is adequate. No special protective clothing is required. An eyewash bottle with clean water should be available. Spillages: Spillages should be swept up or may be safely water hosed to drain under normal circumstances.

6. Handling and Storage Handling: Salt dust is non-flammable but static electricity can be generated by pneumatic conveying, therefore pipes should be bonded and earthed, especially in environments where a spark could prove hazardous. Storage: Due to its hygroscopic nature, dried vacuum salt should be stored in a dry atmosphere and away from concentrated acids. Absorbs moisture if the relative humidity is greater than 75%.

7. Exposure Controls Occupational Exposure as total dust 10mg/m³ (8hr TWA) Limits: (UK EH40) as respirable dust 4mg/m³ (8hr TWA) Dangerous Exposure: None specified. Engineering Controls: Static electricity can be generated by pneumatic conveying; therefore pipes should be bonded and earthed, especially in environments where a spark could prove hazardous.

8. Personal Protection:

Respiratory Protection: If the process is such that salt dust is generated, a disposable face mask should be worn. Hand Protection: Gloves to be worn if prolonged contact is anticipated. Dry salt and concentrated solutions can cause withdrawal of fluid from the skin. Eye Protection: Wear chemical safety goggles in situations where contact with the eyes may occur.

Skin Protection: Skin should be washed to remove salt. Dry salt and concentrated solutions can cause withdrawal of fluid from the skin.

Other Protective Measures: An eyewash and hand washing facilities should be readily available.

9. Physical and Chemical Properties.

- Appearance : Crystalline solid
- Colour : White / Colourless
- pH : 10.0 approx. (10% solution)
- Boiling Point : 1413 °C
- Melting Point : 802 °C
- Flammability : Non-flammable
- Flash Point : Non-flammable
- Explosive Properties : Non-flammable
- Oxidising Properties : Non-flammable
- Vapour Pressure : 2.4mm Hg at 747 °C
- Density : 2.165 g cm⁻³ (of crystalline solid at 20 °C)
- Water Solubility : 35.9 g/100g at 0 °C ; 39.2 g/100g at 100 °C
- Viscosity : Not applicable
- Vapour Density : Not applicable

10. Stability and Reactivity

Chemical Stability: Stable

(a) Conditions to avoid: Reacts with strong sulphuric acid or nitric acid to give hydrogen chloride gas.

(b) Material to avoid: Under wet conditions can corrode many common metals, particularly iron, aluminium and zinc. Stainless steel and Monel resist attack. Does not react with alkalis at ordinary temperatures.

(c) Thermal Decomposition Trace amounts of hydrogen chloride gas may be evolved at temperatures in excess of 800 °C. Contains no water of crystallisation.

(d) Flammability Not flammable

(e) Ignition sensitivity Not applicable

(f) Explosive severity Not explosive. Static electricity can be generated by pneumatic conveying; therefore pipes should be bonded and earthed, especially in environments where a spark could prove hazardous.

11. Toxicological Information

Eyes: Dust may be irritating

Skin: Irritation after prolonged contact

Ingestion: Salt is an essential constituent of the diet. It provides important body electrolytes and is the source of hydrochloric acid present in the gastric juices. The blood stream contains nearly 1% sodium chloride. In normal industrial use salt is Non-hazardous. LD50 3000mg/kg oral, rat.

Inhalation: Dusts may be irritating.

Carcinogenicity: Not considered to be a carcinogen.

Mutagenicity: Not considered to be a mutagen.

Reproductive Effects: None identified

12. Disposal Considerations

Disposal should be in accordance with local or national regulations.

13. Regulatory Information

User:

Not classified as hazardous to users.

EEC Classification:

Under the Classification, Packaging and Labelling of Dangerous Substances Regulations, 1984, this material is not dangerous for supply or conveyance.

14. Other Information (none)

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