

**British Salt Limited**

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# BRITISH SALT

## Safety Data Sheet for all grades of Vacuum Salt (Sodium Chloride) (also applicable to all grades of compacted products)

### 1.1 Identification of the Substance

Chemical Name	:	Sodium Chloride
Synonyms	:	Halite
Formula	:	NaCl
CAS Number	:	7647-14-5
EINECS Number	:	231-598-3
Chemical Family	:	Inorganic Salt

1.2 Identification of the Company - As on letterhead

1.3 Emergency Telephone : 01606-832881 (Office Hours)  
: 01606-839241 (Out of Hours)

### 2. Composition

Sodium Chloride 99.9% minimum on dry basis  
Composition by weight is 39.4% sodium and 60.6% chlorine  
It is treated with part per million levels of a non-toxic anti-caking additive, sodium hexacyanoferrate(II) - E535.

### 3. Hazard Identification

- Inhalation:** Very high concentrations of salt dust may result in inflammations of the mucus membranes of the respiratory tract.
- Skin Contact:** Dry salt and concentrated solutions can cause withdrawal of fluid from the skin and may, on prolonged contact, produce irritation.
- Eye Contact:** Salt and salt solutions are not toxic to the eye but concentrations much above that of tears cause a stinging sensation.
- 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.

### 4. 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.

### 5. Fire Fighting Measures:

- Flammability:** Non-flammable
- Extinguishants:** Use agents suitable for type of surrounding fire (dry chemical, CO<sub>2</sub>, 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.

## 6. 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

## 7. 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 above 75%.

### 8.1 Exposure Controls

**Occupational Exposure Limits:** (UK EH40)  
as total dust                      10mg/m<sup>3</sup> (8hr TWA)  
as respirable dust                4mg/m<sup>3</sup> (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.

### 8.2 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 <sup>-3</sup> (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

<b>Chemical Stability:</b>	Stable
<b>(a) Conditions to avoid:</b>	Reacts with strong sulphuric acid or nitric acid to give hydrogen chloride gas.
<b>(b) Material to avoid:</b>	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
<b>(c) Thermal Decomposition Products:</b>	Trace amounts of hydrogen chloride gas may be evolved at temperatures in excess of 800°C. Contains no water of crystallisation.
<b>(d) Flammability</b>	Not flammable
<b>(e) Ignition sensitivity</b>	Not applicable
<b>(f) Explosive severity</b>	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

<b>Eyes:</b>	Dust may be irritating
<b>Skin:</b>	Irritation after prolonged contact
<b>Ingestion:</b>	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.

<b>Inhalation:</b>	Dusts may be irritating.
<b>Carcinogenicity:</b>	Not considered to be a carcinogen.
<b>Mutagenicity:</b>	Not considered to be a mutagen.
<b>Reproductive Effects:</b>	None identified

## 12. Ecological Information

A maximum value of 412 mg/l ensures the protection of all aquatic life.

Source: Water Research Centre - September 1990

96 hour LC 50 (Fish)	6750 mg/l
48 hour EC 50 (Daphnia)	2024 mg/l
72 hour IC 50 (Algae)	3014 mg/l
Daphnia Subacute	1062 mg/l
Fish Subacute	433 mg/l
BOD 5 Day	0 mg/l
COD	0 mg/l
Earthworm Toxicity	1000 hg/cm <sup>2</sup>

## 13. Disposal Considerations

Disposal should be in accordance with local or national regulations.

## 14. Transport Information

Material not included in the "List of Substances Dangerous for Supply"

Material not included in the "List of Substances Dangerous for Conveyance by Road"

## 15. 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.

## 16. Other Information (none)

**Last reviewed 06/10/2004**

