



## MATERIAL SAFETY DATA SHEET

**Product Name: Sodium Chloride Injection, Concentrate**

### 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

**Manufacturer Name And Address** Hospira, Inc.  
275 North Field Drive  
Lake Forest, Illinois 60045  
USA

**Emergency Telephone** CHEMTREC: 800-424-9300  
**Hospira, Inc. , Non-Emergency** 224-212-2055

**Product Name** Sodium Chloride Injection, Concentrate

**Synonyms** Table salt.

### 2. COMPOSITION/INFORMATION ON INGREDIENTS

**Active Ingredient Name** Sodium Chloride  
**Chemical Formula** NaCl

Component	Approximate Percent by Weight	CAS Number	RTECS Number
Sodium Chloride	1 to 24	7647-14-5	VZ4725000

Non-hazardous ingredients include water for injection. Hazardous ingredients present at less than 1% may include hydrochloric acid which is used to adjust the pH.

### 3. HAZARD INFORMATION

**Emergency Overview** Sodium Chloride Injection, Concentrate, contains sodium chloride. In clinical use, sodium chloride is used in the management of deficiencies of sodium and chloride ions in salt-losing conditions. In the workplace, concentrated sodium chloride solutions may be irritating to the eyes and respiratory tract. Possible target organs may include the eyes, cardiovascular system, gastrointestinal system and nervous system.

**Occupational Exposure Potential** Information on the absorption of this product via inhalation or skin contact is not available. Avoid liquid aerosol generation and skin contact.

**Signs and Symptoms** No signs or symptoms from occupational exposure are known. In clinical use, gastrointestinal effects associated with acute oral ingestion of excessive amounts of sodium chloride include nausea, vomiting, diarrhea, and abdominal cramps. Excessive use of chloride salts may cause a loss of bicarbonate with an acidifying effect. Retention of excess sodium and accumulation of excess water may also occur and may lead to pulmonary and peripheral edema. Hyponatremia has rarely occurred with the use of saline for induction of emesis or for gastric lavage. However, hyponatremia may occur after inappropriate intravenous use of hypertonic saline. The most serious effect of hyponatremia is dehydration of the brain which causes somnolence and confusion progressing to convulsions, coma, respiratory failure, and death. Other symptoms include thirst, reduced salivation and lachrymation, fever, sweating, tachycardia, hypertension or hypotension, headache, dizziness, restlessness, irritability, weakness, and muscular twitching and rigidity.

**Medical Conditions Aggravated by Exposure** Pre-existing cardiovascular or gastrointestinal ailments.

**Carcinogen Lists:** **IARC:** Not listed      **NTP:** Not listed      **OSHA:** Not listed

#### **4. FIRST AID MEASURES**

<b>Eye Contact</b>	Remove from source of exposure. Flush with copious amounts of water. If irritation persists or signs of toxicity occur, seek medical attention. Provide symptomatic/supportive care as necessary.
<b>Skin Contact</b>	Remove from source of exposure. Flush with copious amounts of water. If irritation persists or signs of toxicity occur, seek medical attention. Provide symptomatic/supportive care as necessary.
<b>Inhalation</b>	Remove from source of exposure. If signs of toxicity occur, seek medical attention. Provide symptomatic/supportive care as necessary.
<b>Ingestion</b>	Remove from source of exposure. If signs of toxicity occur, seek medical attention. Provide symptomatic/supportive care as necessary.

#### **5. FIRE FIGHTING MEASURES**

<b>Flammability</b>	None anticipated for this aqueous product.
<b>Fire &amp; Explosion Hazard</b>	None anticipated for this aqueous product.
<b>Extinguishing Media</b>	As with any fire, use extinguishing media appropriate for primary cause of fire.
<b>Special Fire Fighting Procedures</b>	No special provisions required beyond normal fire fighting equipment such as flame and chemical resistant clothing and self contained breathing apparatus.

#### **6. ACCIDENTAL RELEASE MEASURES**

<b>Spill Cleanup and Disposal</b>	Isolate area around spill. Put on suitable protective clothing and equipment as specified by site spill procedures. Absorb the liquid with suitable material and clean affected area with soap and water. Dispose of spill materials according to the applicable federal, state, or local regulations.
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#### **7. HANDLING AND STORAGE**

<b>Handling</b>	No special handling required under conditions of normal product use.
<b>Storage</b>	No special storage required for hazard control. For product protection, follow USP controlled room temperature storage recommendations noted on the product case label, the primary container label, or the product insert.
<b>Special Precautions</b>	Protect from freezing, light, and extreme heat.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Exposure Guidelines

Component	Exposure limits			
	OSHA-PEL	ACGIH-TLV	AIHA WEEL	Hospira EEL
Sodium Chloride	8-hr TWA: Not Established	8-hr TWA: Not Established	8-hr TWA: Not Established	8-hr TWA: Not Established

Notes: OSHA PEL: US Occupational Safety and Health Administration – Permissible Exposure Limit  
 ACGIH TLV: American Conference of Governmental Industrial Hygienists – Threshold Limit Value.  
 AIHA WEEL : Workplace Environmental Exposure Level  
 EEL: Employee Exposure Limit.  
 TWA: 8-hour Time Weighted Average.  
 STEL: 15-minute Short Term Exposure Limit.

**Respiratory Protection**      Respiratory protection is normally not needed during intended product use. However, if the generation of aerosols is likely, and engineering controls are not considered adequate to control potential airborne exposures, the use of an approved air-purifying respirator with a HEPA cartridge (N95 or equivalent) is recommended. Personnel who wear respirators should be fit tested and approved for respirator use as required.

**Skin Protection**              If skin contact with the product formulation is likely, the use of latex or nitrile gloves is recommended.

**Eye Protection**              Eye protection is normally not required during intended product use. However, if eye contact is likely to occur, the use of chemical safety goggles (as a minimum) is recommended.

**Engineering Controls**        Engineering controls are normally not needed during the normal use of this product.

## 9. PHYSICAL/CHEMICAL PROPERTIES

<b>Appearance/Physical State</b>	A sterile, non-pyrogenic, concentrated solution
<b>Odor</b>	NA
<b>Odor Threshold:</b>	NA
<b>pH:</b>	pH 4.8 (4.5 to 7.0)
<b>Melting point/Freezing point:</b>	NA
<b>Initial Boiling Point/Boiling Point Range</b>	NA
<b>Evaporation Rate:</b>	NA
<b>Flammability (solid, gas):</b>	NA
<b>Upper/Lower Flammability or Explosive Limits:</b>	NA
<b>Vapor Pressure</b>	NA
<b>Vapor Density (Air =1)</b>	NA
<b>Evaporation Rate</b>	NA
<b>Specific Gravity</b>	NA
<b>Solubility</b>	Freely soluble in water; practically insoluble in dehydrated alcohol
<b>Partition coefficient: n-octanol/water:</b>	NA
<b>Auto-ignition temperature</b>	NA
<b>Decomposition temperature</b>	NA

**10. STABILITY AND REACTIVITY**

<b>Reactivity</b>	Not determined. None anticipated from this product.
<b>Chemical Stability</b>	Stable under standard use and storage conditions.
<b>Hazardous Reactions</b>	Not determined
<b>Conditions to avoid</b>	Not determined
<b>Incompatibilities</b>	Not determined
<b>Hazardous Decomposition Products</b>	Not determined. During thermal decomposition, it may be possible to generate irritating vapors and/or toxic fumes of hydrogen chloride and sodium oxide.
<b>Hazardous Polymerization</b>	Not anticipated to occur with this product.

**11. TOXICOLOGICAL INFORMATION**

**Acute Toxicity**

Not determined for the product formulation. Information for the ingredient is as follows:

<b>Ingredient(s)</b>	<b>Percent</b>	<b>Test Type</b>	<b>Route of Administration</b>	<b>Value</b>	<b>Units</b>	<b>Species</b>
Sodium Chloride	100	LD50	Oral	3000	mg/kg	Rat
Sodium Chloride	100	LD50	Oral	4000	mg/kg	Mouse
Sodium Chloride	100	LD50	Dermal	> 10,000	mg/kg	Rabbit
Sodium Chloride	100	LC50(1hr)	Inhalation	> 42,000	mg/m <sup>3</sup>	Rat
Sodium Chloride	100	LD50	Intraperitoneal	2600 2602	mg/kg mg/kg	Rat Mouse
Sodium Chloride	100	LD50	Intravenous	645	mg/kg	Mouse

LD 50: Dosage that produces 50% mortality.

<b>Aspiration Hazard</b>	None anticipated from normal handling of this product.
<b>Dermal Irritation/Corrosion</b>	None anticipated from normal handling of this product. In animal studies, sodium chloride was reported to be a mild skin irritant. However, inadvertent contact of this product with skin is not anticipated to produce irritation.
<b>Ocular Irritation/Corrosion</b>	None anticipated from normal handling of this product. In animal studies, sodium chloride was reported to be a mild to moderate irritant. Inadvertent contact of this product with eyes may produce irritation with redness and discomfort.
<b>Dermal or Respiratory Sensitization</b>	None anticipated from normal handling of this product.
<b>Reproductive Effects</b>	Physiological sodium chloride solutions are often used as negative controls in teratology experiments and do not appear to produce adverse effects on embryological development. Administration of sodium chloride has been reported not to be teratogenic in rats, hamsters, and pigs. Subcutaneous injection of 1900 or 2500 mg sodium chloride in pregnant mice increased the incidence of minor skeletal anomalies in the offspring. Increased neonatal body weight was reported in offspring of rats fed high (8%) salt diets when compared to the offspring of dams fed low salt diets.
<b>Mutagenicity</b>	Sodium chloride was negative in the Ames test, with and without metabolic activation. Sodium chloride was positive for genotoxicity in an <i>in vitro</i> mouse lymphoma assay.

**11. TOXICOLOGICAL INFORMATION: continued**

<b>Carcinogenicity</b>	The carcinogenic potential of sodium chloride has not been fully evaluated.
<b>Target Organ Effects</b>	Possible target organs may include the eyes, cardiovascular system, gastrointestinal system and nervous system.

**12. ECOLOGICAL INFORMATION**

<b>Aquatic Toxicity</b>	Not determined for product. LC50(96hr, flow through) = 9675-11,100 mg/L in freshwater fish LC50(96hr, static) = 7341-17,550 mg/L in freshwater fish LC50(24hr, static) = 13,750 - 14,125 mg/L in freshwater fish LC50(48 hr) = 3310 mg/L in Daphnia magna.
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**Persistence/Biodegradability** Not determined for product.

**Bioaccumulation** Not determined for product.

**Mobility in Soil** Not determined for product.

Notes:

1. EC50: Concentration in water that produces 50% mortality in Daphnia sp.
2. LC50: Concentration in water that produces 50% mortality in fish.
3. EC50: Concentration in water that produces 50% inhibition of growth in algae.

**13. DISPOSAL CONSIDERATIONS**

<b>Waste Disposal</b>	All waste materials must be properly characterized. Further, disposal should be performed in accordance with the federal, state or local regulatory requirements.
<b>Container Handling and Disposal</b>	Dispose of container and unused contents in accordance with federal, state and local regulations.

**14. TRANSPORTATION INFORMATION**

<b>DOT STATUS:</b>	Not regulated
<b>Proper Shipping Name:</b>	NA
<b>Hazard Class:</b>	NA
<b>UN Number:</b>	NA
<b>Packing Group:</b>	NA
<b>Reportable Quantity:</b>	NA

<b>ICAO/IATA STATUS</b>	Not regulated
<b>Proper Shipping Name:</b>	NA
<b>Hazard Class:</b>	NA
<b>UN Number:</b>	NA
<b>Packing Group:</b>	NA
<b>Reportable Quantity:</b>	NA

<b>IMDG STATUS</b>	Not regulated
<b>Proper Shipping Name:</b>	NA
<b>Hazard Class:</b>	NA
<b>UN Number:</b>	NA
<b>Packing Group:</b>	NA
<b>Reportable Quantity:</b>	NA

Notes: DOT - US Department of Transportation Regulations


**15. REGULATORY INFORMATION**

<b>TSCA Status</b>	Exempt. However, sodium chloride is listed on the TSCA inventory.
<b>CERCLA Status</b>	Not listed
<b>SARA 302 Status</b>	Not listed
<b>SARA 313 Status</b>	Not listed
<b>RCRA Status</b>	Not listed
<b>PROP 65 (Calif.)</b>	Not listed

Notes: TSCA, Toxic Substance Control Act; CERCLA, US EPA law, Comprehensive Environmental Response, Compensation, and Liability Act; SARA, Superfund Amendments and Reauthorization Act; RCRA, US EPA, Resource Conservation and Recovery Act; Prop 65, California Proposition 65

**U.S. OSHA Classification** Eye Irritant  
Target Organ Toxin

**GHS Classification**

<b>Hazard Class</b>	Acute Oral Toxicity	Eye Irritation	Target Organ Toxicity
<b>Hazard Category</b>	Unclassified	2B	2
<b>Symbol</b>			
<b>Signal Word</b>		Warning	Warning
<b>Hazard Statement</b>	Causes eye irritation		May cause damage to the eyes, cardiovascular system, gastrointestinal system and nervous system through prolonged or repeated exposure.

**Prevention:** Do not breathe mist or spray.

**Response:** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical attention. Wash hands after handling.

Get medical attention if you feel unwell.

**15. REGULATORY INFORMATION: continued**

**EU Classification\***

\*Medicinal products are exempt from the requirements of the EU Dangerous Preparations Directive. Information provided below is for the pure substance sodium chloride.

**Classification(s):** Irritant

**Symbol:**



**Indication of Danger** Xi

**Risk Phrases:** R36/37 - Irritating to eyes and respiratory system

**Safety Phrases:** S23: Do not breathe vapor/spray  
S24: Avoid contact with the skin  
S25: Avoid contact with eyes  
S37/39 Wear suitable gloves and eye/face protection.

**16. OTHER INFORMATION**

Notes:

ACGIH TLV	American Conference of Governmental Industrial Hygienists – Threshold Limit Value
CAS	Chemical Abstracts Service Number
CERCLA	US EPA law, Comprehensive Environmental Response, Compensation, and Liability Act
DOT	US Department of Transportation Regulations
EEL	Employee Exposure Limit
IATA	International Air Transport Association
LD <sub>50</sub>	Dosage producing 50% mortality
NA	Not applicable/Not available
NE	Not established
NIOSH	National Institute for Occupational Safety and Health
OSHA PEL	US Occupational Safety and Health Administration – Permissible Exposure Limit
Prop 65	California Proposition 65
RCRA	US EPA, Resource Conservation and Recovery Act
RTECS	Registry of Toxic Effects of Chemical Substances
SARA	Superfund Amendments and Reauthorization Act
STEL	15-minute Short Term Exposure Limit
TSCA	Toxic Substance Control Act
TWA	8-hour Time Weighted Average

MSDS Coordinator: Global Occupational Toxicology  
Date Prepared: September 15, 2005  
Date Revised: October 23, 2008

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