



## BIO-IC-CAL-C

### High-Purity Standards

Catalogue number: **BIO-IC-CAL-C**

Version No: **1.1**

Safety Data Sheet according to OSHA HazCom Standard (2012) requirements

Chemwatch Hazard Alert Code: **0**

Issue Date: **08/27/2016**

Print Date: **08/27/2016**

S.GHS.USA.EN

## SECTION 1 IDENTIFICATION

### Product Identifier

Product name	BIO-IC-CAL-C
Synonyms	3µg/mL Chloride, Sulfate in H <sub>2</sub> O
Other means of identification	BIO-IC-CAL-C

### Recommended use of the chemical and restrictions on use

Relevant identified uses	Use according to manufacturer's directions.
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### Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

Registered company name	High-Purity Standards
Address	PO Box 41727 SC 29423 United States
Telephone	843-767-7900
Fax	843-767-7906
Website	highpuritystandards.com
Email	Not Available

### Emergency phone number

Association / Organisation	INFOTRAC
Emergency telephone numbers	1-800-535-5053
Other emergency telephone numbers	1-352-323-3500

## SECTION 2 HAZARD(S) IDENTIFICATION

### Classification of the substance or mixture

Classification	Not Applicable
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### Label elements

GHS label elements	Not Applicable
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SIGNAL WORD	<b>NOT APPLICABLE</b>
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### Hazard statement(s)

Not Applicable

### Hazard(s) not otherwise specified

Not Applicable

### Precautionary statement(s) Prevention

Not Applicable

### Precautionary statement(s) Response

Not Applicable

### Precautionary statement(s) Storage

Not Applicable

Continued...

**Precautionary statement(s) Disposal**

Not Applicable

**SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS****Substances**

See section below for composition of Mixtures

**Mixtures**

CAS No	%[weight]	Name
7647-14-5	0.0003	<u>sodium chloride</u>
7757-82-6	0.0003	<u>sodium sulfate</u>
7732-18-5	balance	<u>water</u>

**SECTION 4 FIRST-AID MEASURES****Description of first aid measures**

<b>Eye Contact</b>	<p>If this product comes in contact with eyes:</p> <ul style="list-style-type: none"> <li>▶ Wash out immediately with water.</li> <li>▶ If irritation continues, seek medical attention.</li> <li>▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.</li> </ul>
<b>Skin Contact</b>	<p>If skin or hair contact occurs:</p> <ul style="list-style-type: none"> <li>▶ Flush skin and hair with running water (and soap if available).</li> <li>▶ Seek medical attention in event of irritation.</li> </ul>
<b>Inhalation</b>	<ul style="list-style-type: none"> <li>▶ If fumes, aerosols or combustion products are inhaled remove from contaminated area.</li> <li>▶ Other measures are usually unnecessary.</li> </ul>
<b>Ingestion</b>	<ul style="list-style-type: none"> <li>▶ Immediately give a glass of water.</li> <li>▶ First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.</li> </ul>

**Most important symptoms and effects, both acute and delayed**

See Section 11

**Indication of any immediate medical attention and special treatment needed**

Treat symptomatically.

**SECTION 5 FIRE-FIGHTING MEASURES****Extinguishing media**

- ▶ There is no restriction on the type of extinguisher which may be used.
- ▶ Use extinguishing media suitable for surrounding area.

**Special hazards arising from the substrate or mixture**

<b>Fire Incompatibility</b>	None known.
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**Special protective equipment and precautions for fire-fighters**

<b>Fire Fighting</b>	▶ Use water delivered as a fine spray to control fire and cool adjacent area.
<b>Fire/Explosion Hazard</b>	▶ Non combustible.

**SECTION 6 ACCIDENTAL RELEASE MEASURES****Personal precautions, protective equipment and emergency procedures**

See section 8

**Environmental precautions**

See section 12

**Methods and material for containment and cleaning up**

<b>Minor Spills</b>	▶ Clean up all spills immediately.
<b>Major Spills</b>	▶ Clear area of personnel and move upwind.

Personal Protective Equipment advice is contained in Section 8 of the SDS.

**SECTION 7 HANDLING AND STORAGE****Precautions for safe handling**

<b>Safe handling</b>	▶ Limit all unnecessary personal contact.
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**Other information**

**Conditions for safe storage, including any incompatibilities**

<b>Suitable container</b>	▶ Polyethylene or polypropylene container.
<b>Storage incompatibility</b>	Avoid contamination of water, foodstuffs, feed or seed. None known

**SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Control parameters**

**OCCUPATIONAL EXPOSURE LIMITS (OEL)**

**INGREDIENT DATA**


Not Available

**EMERGENCY LIMITS**

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
sodium chloride	Chloride; (Chloride(1-); Chloride ions)	1 ppm	2.52 ppm	30 ppm
sodium chloride	Sodium chloride	11 mg/m3	120 mg/m3	1100 mg/m3
sodium sulfate	Sodium sulfate, anhydrous	11 mg/m3	130 mg/m3	650 mg/m3

Ingredient	Original IDLH	Revised IDLH
sodium chloride	Not Available	Not Available
sodium sulfate	Not Available	Not Available
water	Not Available	Not Available

**Exposure controls**

<b>Appropriate engineering controls</b>	Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard.
<b>Personal protection</b>	
<b>Eye and face protection</b>	▶ Safety glasses with side shields ▶ Chemical goggles.
<b>Skin protection</b>	See Hand protection below
<b>Hands/feet protection</b>	Wear general protective gloves, eg. light weight rubber gloves. The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer.
<b>Body protection</b>	See Other protection below
<b>Other protection</b>	No special equipment needed when handling small quantities.
<b>Thermal hazards</b>	Not Available

**SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES**

**Information on basic physical and chemical properties**

<b>Appearance</b>	colorless		
<b>Physical state</b>	Liquid	<b>Relative density (Water = 1)</b>	Not Available
<b>Odour</b>	Not Available	<b>Partition coefficient n-octanol / water</b>	Not Available
<b>Odour threshold</b>	Not Available	<b>Auto-ignition temperature (°C)</b>	Not Available
<b>pH (as supplied)</b>	Not Available	<b>Decomposition temperature</b>	Not Available
<b>Melting point / freezing point (°C)</b>	Not Available	<b>Viscosity (cSt)</b>	Not Available
<b>Initial boiling point and boiling range (°C)</b>	Not Available	<b>Molecular weight (g/mol)</b>	Not Available
<b>Flash point (°C)</b>	Not Available	<b>Taste</b>	Not Available
<b>Evaporation rate</b>	Not Available	<b>Explosive properties</b>	Not Available
<b>Flammability</b>	Not Available	<b>Oxidising properties</b>	Not Available
<b>Upper Explosive Limit (%)</b>	Not Available	<b>Surface Tension (dyn/cm or mN/m)</b>	Not Available
<b>Lower Explosive Limit (%)</b>	Not Available	<b>Volatile Component (%vol)</b>	Not Available
<b>Vapour pressure (kPa)</b>	Not Available	<b>Gas group</b>	Not Available

<b>Solubility in water (g/L)</b>	Miscible	<b>pH as a solution (1%)</b>	Not Available
<b>Vapour density (Air = 1)</b>	Not Available	<b>VOC g/L</b>	Not Available

**SECTION 10 STABILITY AND REACTIVITY**

<b>Reactivity</b>	See section 7
<b>Chemical stability</b>	Product is considered stable and hazardous polymerisation will not occur.
<b>Possibility of hazardous reactions</b>	See section 7
<b>Conditions to avoid</b>	See section 7
<b>Incompatible materials</b>	See section 7
<b>Hazardous decomposition products</b>	See section 5

**SECTION 11 TOXICOLOGICAL INFORMATION**

**Information on toxicological effects**

<b>Inhaled</b>	The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models).
<b>Ingestion</b>	The material has <b>NOT</b> been classified by EC Directives or other classification systems as "harmful by ingestion".
<b>Skin Contact</b>	The material is not thought to produce adverse health effects or skin irritation following contact (as classified by EC Directives using animal models).
<b>Eye</b>	Although the liquid is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may produce transient discomfort characterised by tearing or conjunctival redness (as with windburn).
<b>Chronic</b>	Long-term exposure to the product is not thought to produce chronic effects adverse to the health (as classified by EC Directives using animal models); nevertheless exposure by all routes should be minimised as a matter of course.

	BIO-IC-CAL-C	
	TOXICITY	IRRITATION
	Not Available	Not Available
sodium chloride	TOXICITY	
	Dermal (rabbit) LD50: >10000 mg/kg <sup>[1]</sup>	Eye (rabbit): 10 mg - moderate
	Oral (rat) LD50: 3000 mg/kg <sup>[2]</sup>	Eye (rabbit): 100 mg/24h - moderate
		Skin (rabbit): 500 mg/24h - mild
sodium sulfate	TOXICITY	
	Oral (rat) LD50: >2000 mg/kg <sup>[1]</sup>	IRRITATION Nil reported
water	TOXICITY	
	Oral (rat) LD50: >90000 mg/kg <sup>[2]</sup>	IRRITATION Not Available

**Legend:** 1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. \* Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances

<b>SODIUM CHLORIDE</b>	The material may produce moderate eye irritation leading to inflammation. The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin.
<b>SODIUM SULFATE</b>	for sodium sulfate: Sulfate (and sodium) ions are important constituents of the mammalian body and of natural foodstuffs and there is a considerable daily turnover of both ions (several grams/day expressed as sodium sulfate). Equivocal Tumorigen by RTECS criteria. Reproductive effector in mice.
<b>WATER</b>	No significant acute toxicological data identified in literature search.
<b>SODIUM CHLORIDE &amp; SODIUM SULFATE</b>	Asthma-like symptoms may continue for months or even years after exposure to the material ceases.

<b>Acute Toxicity</b>	☉	<b>Carcinogenicity</b>	☉
<b>Skin Irritation/Corrosion</b>	☉	<b>Reproductivity</b>	☉
<b>Serious Eye Damage/Irritation</b>	☉	<b>STOT - Single Exposure</b>	☉
<b>Respiratory or Skin sensitisation</b>	☉	<b>STOT - Repeated Exposure</b>	☉
<b>Mutagenicity</b>	☉	<b>Aspiration Hazard</b>	☉

**Legend:** ✗ - Data available but does not fill the criteria for classification  
✔ - Data required to make classification available  
☉ - Data Not Available to make classification

**SECTION 12 ECOLOGICAL INFORMATION****Toxicity**

Ingredient	Endpoint	Test Duration (hr)	Species	Value	Source
sodium chloride	LC50	96	Fish	620.199mg/L	3
sodium chloride	EC50	48	Crustacea	402.6mg/L	4
sodium chloride	EC50	96	Algae or other aquatic plants	2430mg/L	4
sodium chloride	EC50	384	Crustacea	140.582mg/L	3
sodium chloride	NOEC	6	Fish	0.001mg/L	4
sodium sulfate	LC50	96	Fish	ca.56mg/L	2
sodium sulfate	EC50	48	Crustacea	2564mg/L	2
sodium sulfate	EC50	96	Algae or other aquatic plants	105.72278mg/L	3
sodium sulfate	EC0	360	Algae or other aquatic plants	4mg/L	1
sodium sulfate	NOEC	168	Fish	<220mg/L	4
water	LC50	96	Fish	897.520mg/L	3
water	EC50	96	Algae or other aquatic plants	8768.874mg/L	3
water	EC50	384	Crustacea	199.179mg/L	3

**Legend:**

Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data

**Persistence and degradability**

Ingredient	Persistence: Water/Soil	Persistence: Air
sodium chloride	LOW	LOW
sodium sulfate	HIGH	HIGH
water	LOW	LOW

**Bioaccumulative potential**

Ingredient	Bioaccumulation
sodium chloride	LOW (LogKOW = 0.5392)
sodium sulfate	LOW (LogKOW = -2.2002)
water	LOW (LogKOW = -1.38)

**Mobility in soil**

Ingredient	Mobility
sodium chloride	LOW (KOC = 14.3)
sodium sulfate	LOW (KOC = 6.124)
water	LOW (KOC = 14.3)

**SECTION 13 DISPOSAL CONSIDERATIONS****Waste treatment methods**

Product / Packaging disposal	Legislation addressing waste disposal requirements may differ by country, state and/ or territory.
	<ul style="list-style-type: none"> <li>▶ <b>DO NOT allow wash water from cleaning or process equipment to enter drains.</b></li> <li>▶ Recycle wherever possible.</li> </ul>

**SECTION 14 TRANSPORT INFORMATION****Labels Required**

Marine Pollutant	NO

**Land transport (DOT): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS**

**Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS**

**Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS**

**Transport in bulk according to Annex II of MARPOL and the IBC code**

Not Applicable

**SECTION 15 REGULATORY INFORMATION**

**Safety, health and environmental regulations / legislation specific for the substance or mixture****SODIUM CHLORIDE(7647-14-5) IS FOUND ON THE FOLLOWING REGULATORY LISTS**

US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

**SODIUM SULFATE(7757-82-6) IS FOUND ON THE FOLLOWING REGULATORY LISTS**

US - California OEHHA/ARB - Acute Reference Exposure Levels and Target Organs (RELs)

US - Washington Toxic air pollutants and their ASIL, SQER and de minimis emission values

US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

**WATER(7732-18-5) IS FOUND ON THE FOLLOWING REGULATORY LISTS**

US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

**Federal Regulations****Superfund Amendments and Reauthorization Act of 1986 (SARA)****SECTION 311/312 HAZARD CATEGORIES**

Immediate (acute) health hazard	No
Delayed (chronic) health hazard	No
Fire hazard	No
Pressure hazard	No
Reactivity hazard	No

**US. EPA CERCLA HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES (40 CFR 302.4)**

None Reported

**State Regulations****US. CALIFORNIA PROPOSITION 65**

None Reported

National Inventory	Status
Australia - AICS	Y
Canada - DSL	Y
Canada - NDSL	N (water; sodium sulfate; sodium chloride)
China - IECSC	Y
Europe - EINEC / ELINCS / NLP	Y
Japan - ENCS	N (water)
Korea - KECI	Y
New Zealand - NZIoC	Y
Philippines - PICCS	Y
USA - TSCA	Y
<b>Legend:</b>	Y = All ingredients are on the inventory N = Not determined or one or more ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)

**SECTION 16 OTHER INFORMATION****Other information****Ingredients with multiple cas numbers**

Name	CAS No
sodium chloride	7647-14-5, 14762-51-7, 16887-00-6
sodium sulfate	7757-82-6, 15124-09-1, 1337-28-6

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment.

**Definitions and abbreviations**

PC—TWA: Permissible Concentration-Time Weighted Average  
 PC—STEL: Permissible Concentration-Short Term Exposure Limit  
 IARC: International Agency for Research on Cancer  
 ACGIH: American Conference of Governmental Industrial Hygienists  
 STEL: Short Term Exposure Limit  
 TEEL: Temporary Emergency Exposure Limit,  
 IDLH: Immediately Dangerous to Life or Health Concentrations  
 OSF: Odour Safety Factor  
 NOAEL :No Observed Adverse Effect Level  
 LOAEL: Lowest Observed Adverse Effect Level  
 TLV: Threshold Limit Value  
 LOD: Limit Of Detection  
 OTV: Odour Threshold Value

BCF: BioConcentration Factors  
BEI: Biological Exposure Index

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