NeXtal Opti Salt Suite

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SECTION 1. IDENTIFICATION

Product name : NeXtal Opti Salt Suite

Manufacturer or supplier's details

Company : NeXtal
6201 Trust Dr
Holland, OH 43528
USA

Telephone : 419-740-6600

E-mail address : www.calibrescientific.com

Emergency telephone : CHEMTREC
USA & Canada 1-800-424-9300
Outside USA & Canada (703) 527-3887
Chemtrec ID# 696910

Recommended use of the chemical and restrictions on use

Recommended use : Laboratory chemicals

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Oxidizing liquids : Category 3

Acute toxicity (Oral) : Category 4

Skin irritation : Category 2

Eye irritation : Category 2A

Carcinogenicity : Category 1B

GHS Label element

Hazard pictograms :

Signal Word : Danger

Hazard Statements	:	H272 May intensify fire; oxidizer. H302 Harmful if swallowed. H315 Causes skin irritation. H319 Causes serious eye irritation. H350 May cause cancer.
Precautionary Statements	:	**Prevention:** P201 Obtain special instructions before use. P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking. P221 Take any precaution to avoid mixing with combustibles. P280 Wear protective gloves/protective clothing/eye protection/ face protection. **Response:** P308 + P313 IF exposed or concerned: Get medical advice/ attention. P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture	:	Mixture
Substance name	:	Semifinished Opti-Salts 0.5

Hazardous ingredients

Chemical Name	CAS-No.	Concentration (% w/w)
Magnesium chloride, hexahydrate	7791-18-6	>= 20 - < 30
calcium chloride dihydrate	10035-04-8	>= 20 - < 30
sodium nitrate	7631-99-4	>= 20 - < 30
sodium thiocyanate	540-72-7	>= 10 - < 20
ammonium chloride	12125-02-9	>= 10 - < 20
lithium chloride	7447-41-8	>= 10 - < 20
sodium fluoride	7681-49-4	>= 1 - < 10

SECTION 4. FIRST AID MEASURES

General advice	:	Move out of dangerous area. Show this material safety data sheet to the doctor in attendance.
If inhaled	:	If unconscious, place in recovery position and seek medical advice. If symptoms persist, call a physician.
In case of skin contact	:	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If symptoms persist, call a physician.
In case of eye contact	:	Immediately flush eye(s) with plenty of water.

		Remove contact lenses. Protect unharmed eyes. Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
If swallowed	:	If accidentally swallowed obtain immediate medical attention. Rinse mouth with water. Never give anything by mouth to an unconscious person.
Most important symptoms and effects, both acute and delayed	:	Harmful if swallowed. Causes skin irritation. Causes serious eye irritation. No information available.
Notes to physician	:	No information available.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	:	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Specific hazards during fire fighting	:	Exposure to decomposition products may be a hazard to health.
Hazardous combustion products	:	Carbon oxides Magnesium oxides Nitrogen oxides (NOx) Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke). Bromine compounds Chlorine compounds Hydrogen chloride gas Sulfur oxides potassium oxide
Specific extinguishing methods	:	In the event of fire and/or explosion do not breathe fumes. Use a water spray to cool fully closed containers.
Special protective equipment for fire-fighters	:	Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment. Avoid breathing dust/fumes/gas/mist/vapors/spray.
Environmental precautions	:	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so.
Methods and materials for containment and cleaning up	:	Contain spillage, and then collect with non-combustible absorbent material (e.g. sand, earth, diatomaceous

vermiculite) and place in container for disposal according to local / national regulations (see section 13).
Unsuitable cleaning agents: sodium hypochlorite

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion	:	Keep away from open flames, hot surfaces and sources of ignition. Keep away from combustible material.
Advice on safe handling	:	Do not breathe vapors/dust. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Dispose of rinse water in accordance with local and national regulations.
Conditions for safe storage	:	Keep container tightly closed in a dry and well-ventilated place.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Ingredients	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
ammonium chloride	12125-02-9	TWA	10 mg/m3	ACGIH
		STEL	20 mg/m3	ACGIH
		TWA (Fumes)	10 mg/m3	NIOSH REL
		ST (Fumes)	20 mg/m3	NIOSH REL
		TWA	10 mg/m3	OSHA P0
		STEL	20 mg/m3	OSHA P0
		TWA (Fumes)	10 mg/m3	ACGIH
		STEL (Fumes)	20 mg/m3	ACGIH
		TWA (Fumes)	10 mg/m3	NIOSH REL
		ST (Fumes)	20 mg/m3	NIOSH REL
sodium fluoride	7681-49-4	TWA	2.5 mg/m3 (Fluorine)	NIOSH REL
		TWA	2.5 mg/m3 (Fluorine)	OSHA Z-1
		TWA	2.5 mg/m3 (Fluorine)	ACGIH
		TWA	2.5 mg/m3 (Fluorine)	OSHA P0
		TWA	2.5 mg/m3 (Fluorine)	NIOSH REL

		TWA	2.5 mg/m3 (Fluorine)	OSHA Z-1
		TWA	2.5 mg/m3 (Fluorine)	ACGIH
		TWA	2.5 mg/m3 (Fluorine)	OSHA P0

Hazardous components without workplace control parameters

Ingredients	CAS-No.
Magnesium chloride, hexahydrate	7791-18-6
calcium chloride dihydrate	10035-04-8
sodium nitrate	7631-99-4
sodium thiocyanate	540-72-7
lithium chloride	7447-41-8

Biological occupational exposure limits

Ingredients	CAS-No.	Control parameters	Biological specimen	Sampling time	Permissible concentration	Basis
	7681-49-4	Fluoride (Fluorine)	Urine	Prior to shift (16 hours after exposure ceases)	2 mg/l	ACGIH BEI
		Fluoride (Fluorine)	Urine	End of shift (As soon as possible after exposure ceases)	3 mg/l	ACGIH BEI

Personal protective equipment

Hand protection

Material : Protective gloves

Remarks : The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).

Eye protection : Safety glasses
Wear face-shield and protective suit for abnormal processing problems.
Ensure that eyewash stations and safety showers are close to the workstation location.

Skin and body protection : Choose body protection according to the amount and concentration of the dangerous substance at the workplace.
Footwear protecting against chemicals

Hygiene measures	:	Keep away from food and drink. Wash hands before breaks and at the end of workday. Ensure adequate ventilation, especially in confined areas. Avoid contact with the skin and the eyes. When using do not eat, drink or smoke.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	liquid
Color	:	No data available
Odor	:	No data available
Odor Threshold	:	No data available
pH	:	No data available
Melting point/range	:	No data available
Boiling point/boiling range	:	No data available
Flash point	:	No data available
Evaporation rate	:	No data available
Burning rate	:	No data available
Upper explosion limit	:	No data available
Lower explosion limit	:	No data available
Vapor pressure	:	No data available
Relative vapor density	:	No data available
Relative density	:	No data available
Density	:	No data available
Solubility(ies)		
Water solubility	:	No data available
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Autoignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available

Viscosity, kinematic	:	No data available
Explosive properties	:	No data available
Oxidizing properties	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No decomposition if stored and applied as directed.
Chemical stability	:	No decomposition if stored and applied as directed.
Possibility of hazardous reactions	:	Stable under recommended storage conditions. Hazardous decomposition products formed under fire conditions. Thiocyanates can develop poisonous gas in contact with strong acids. Keep away from oxidizing agents, and acidic or alkaline products.
Conditions to avoid	:	No data available
Incompatible materials	:	No data available
Hazardous decomposition products	:	No decomposition if stored and applied as directed.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Harmful if swallowed.

Product:

Acute oral toxicity	:	Acute toxicity estimate: 996.34mg/kg Method: Calculation method
Acute inhalation toxicity	:	Acute toxicity estimate:>40mg/l Exposure time: 4h Test atmosphere: vapor Method: Calculation method
Acute dermal toxicity	:	Acute toxicity estimate: > 5,000 mg/kg Method: Calculation method

Ingredients:

Magnesium chloride, hexahyrdrate Acute oral toxicity	:	LD50 Oral (Rat): 8,100 mg/l

sodium nitrate:

Acute oral toxicity	:	LD50 Oral (Rat): 1,267 mg/kg
		LD50 Oral (Rabbit): 2,680 mg/kg

sodium thiocyanate:

Acute oral toxicity	:	LD50 Oral (Rat): 764 mg/kg
Acute inhalation toxicity	:	Acute toxicity estimate: 1.6 mg/l Test atmosphere: dust/mist

ammonium chloride:

Acute oral toxicity	:	LD50 Oral (Rat): 1,650 mg/kg

lithium chloride:

Acute oral toxicity	:	LD50 Oral (Rat): 526 mg/kg

sodium fluoride:

Acute oral toxicity	:	LD50 Oral (Rat, female): 148.5 mg/kg
		LD50 Oral (Mouse): 44 mg/kg
		LD50 Oral (Rabbit): 200 mg/kg
		LD50 Oral (Rat, male): 223 mg/kg

Skin corrosion/irritation

Causes skin irritation.

Product:

Remarks:
May irritate skin.

Ingredients:

sodium thiocyanate:
Species: Rabbit
Result: No skin irritation

Serious eye damage/eye irritation

Causes serious eye irritation.

Product:

Remarks:
May cause irreversible eye damage.

Ingredients:

sodium thiocyanate:
Species: Rabbit
Result: No eye irritation

Respiratory or skin sensitization

Skin sensitization: Not classified based on available information.
Respiratory sensitization: Not classified based on available information.

Ingredients:

sodium thiocyanate:
Species: Humans
Result: positive

Species: Guinea pig
Result: positive

Germ cell mutagenicity

Not classified based on available information.

Carcinogenicity

Not classified based on available information

IARC	Group 2A: Probably carcinogenic to humans	
	Sodium nitrate	7631-99-4
OSHA	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.	
NTP	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.	

Reproductive toxicity

Not classified based on available information.

STOT-single exposure

Not classified based on available information.

STOT-repeated exposure

Not classified based on available information.

Aspiration toxicity

Not classified based on available information.

Further information

No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish	: No data available
Toxicity to algae	: No data available
Toxicity to bacteria	: No data available
	: LC50 (Gambusia affinis (Mosquito fish)): 6,650 mg/l

Ingredients:

sodium nitrate:
Toxicity to fish

Exposure time: 96 h
Test Type: static test

sodium thiocyanate:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 233 mg/l
Exposure time: 96 h

LC50 (Pimephales promelas (fathead minnow)): > 100 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 11 mg/l
Exposure time: 48 h

Toxicity to algae : (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l

Toxicity to bacteria : EC10 (Bacteria): 8,000 mg/l
Method: OECD Test Guideline 209

ammonium chloride:

Toxicity to fish : LC50 (Cyprinus carpio (Carp)): 209 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 161 mg/l
Exposure time: 48 h

lithium chloride:

Toxicity to fish : LC50: 17 mg/l
Exposure time: 96 h

sodium fluoride:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 200 mg/l
Exposure time: 96 h

Persistence and degradability

No data available

Bioaccumulative potential

Product:

Bioaccumulation : No data available

Ingredients:

sodium thiocyanate:

Partition coefficient: n-octanol/water : Remarks: Not applicable

Mobility in soil

No data available

Other adverse effects

Product:

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I

		Substances Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).
Additional ecological information	:	No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues	:	Send to a licensed waste management company. Dispose of as hazardous waste in compliance with local and national regulations. Dispose of contents/container in accordance with local regulation.
Contaminated packaging	:	Dispose of as unused product. Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

IATA-DGR

UN/ID No.	:	UN 3218
Proper shipping name	:	Nitrates, inorganic, aqueous solution, n.o.s.
Class	:	5.1
Packing group	:	III
Labels	:	Oxidizer

IMDG-Code

UN number	:	UN 3218
Proper shipping name	:	NITRATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.
Class	:	5.1
Packing group	:	III
Labels	:	5.1
EmS Code	:	F-A, S-Q
Marine pollutant	:	no

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Domestic regulation

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Fire Hazard
Acute Health Hazard
Chronic Health Hazard

SARA 302 : No chemicals in this mate rial are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 : The following component are subject to reporting levels established by SARA Title III, Section 313:

sodium nitrate	7631-99-4

US State Regulations

California Prop. 65 This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

TSCA list

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

SECTION 16. OTHER INFORMATION

Full text of other abbreviations

(Q)SAR - (Quantitative) Structure Activity Relationship; ASTM - American Society for the Testing of Materials; bw - Body weight; DIN - Standard of the German Institute for Standardisation; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISO - International Organisation for Standardization; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative; DSL - Domestic Substances List (Canada); KECI - Korea Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); AICS - Australian Inventory of Chemical Substances; IECSC - Inventory of Existing Chemical Substances in China; ENCS - Existing and New Chemical Substances (Japan); ISHL - Industrial Safety and Health Law (Japan); PICCS - Philippines Inventory of Chemicals and Chemical Substances; NZIoC - New Zealand Inventory of Chemicals;

TCSI - Taiwan Chemical Substance Inventory; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; DOT - Department of Transportation; EHS - Extremely Hazardous Substance; HMIS - Hazardous Materials Identification System; MSHA - Mine Safety and Health Administration; NFPA - National Fire Protection Association; RCRA - Resource Conservation and Recovery Act; RQ - Reportable Quantity; SARA - Superfund Amendments and Reauthorization Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; GLP - Good Laboratory Practice; ERG - Emergency Response Guide; NTP - National Toxicology Program; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods

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