

## SAFETY DATA SHEET

Version 6.4  
Revision Date 08/16/2023  
Print Date 10/07/2023

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### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1 Product identifiers

Product name : Sodium nitrate

Product Number : S5506

CAS-No. : 7631-99-4

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Synthesis of substances

#### 1.3 Details of the supplier of the safety data sheet

Company : United Nuclear Scientific  
125 N. 8th Street Klamath  
Falls, OR 97601

Telephone : +1 541-205-6855

#### 1.4 Emergency telephone

Emergency Phone # 800-255-3924 VelocityEHS (USA)

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### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

##### GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Oxidizing solids (Category 3), H272

Eye irritation (Category 2A), H319

For the full text of the H-Statements mentioned in this Section, see Section 16.

#### 2.2 GHS Label elements, including precautionary statements

Pictogram



Signal Word

Warning

Hazard statement(s)	
H272	May intensify fire; oxidizer.
H319	Causes serious eye irritation.
Precautionary statement(s)	
P210	Keep away from heat.
P220	Keep/Store away from clothing/ combustible materials.
P221	Take any precaution to avoid mixing with combustibles.
P264	Wash skin thoroughly after handling.
P280	Wear protective gloves/ eye protection/ face protection.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313	If eye irritation persists: Get medical advice/ attention.
P370 + P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
P501	Dispose of contents/ container to an approved waste disposal plant.

**2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none**

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**SECTION 3: Composition/information on ingredients**

**3.1 Substances**

Formula	: $\text{NNaO}_3$
Molecular weight	: 84.99 g/mol
CAS-No.	: 7631-99-4
EC-No.	: 231-554-3

Component	Classification	Concentration
<b>sodium nitrate</b>	Ox. Sol. 3; Eye Irrit. 2A; H272, H319	<= 100 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

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**SECTION 4: First aid measures**

**4.1 Description of first-aid measures**

**General advice**

Show this material safety data sheet to the doctor in attendance.

**If inhaled**

After inhalation: fresh air.

**In case of skin contact**

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.

**In case of eye contact**

After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.

**If swallowed**

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

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

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

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

No data available

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**SECTION 5: Firefighting measures****5.1 Extinguishing media****Suitable extinguishing media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable extinguishing media**

For this substance/mixture no limitations of extinguishing agents are given.

**5.2 Special hazards arising from the substance or mixture**

Nitrogen oxides (NO<sub>x</sub>)

Sodium oxides

Not combustible.

Has a fire-promoting effect due to release of oxygen.

Ambient fire may liberate hazardous vapours.

**5.3 Advice for firefighters**

In the event of fire, wear self-contained breathing apparatus.

**5.4 Further information**

Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

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**SECTION 6: Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures**

Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

For personal protection see section 8.

**6.2 Environmental precautions**

Do not let product enter drains.

**6.3 Methods and materials for containment and cleaning up**

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

## 6.4 Reference to other sections

For disposal see section 13.

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## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

#### Advice on protection against fire and explosion

Keep away from open flames, hot surfaces and sources of ignition.

#### Hygiene measures

Change contaminated clothing. Wash hands after working with substance.

For precautions see section 2.2.

### 7.2 Conditions for safe storage, including any incompatibilities

#### Storage conditions

Tightly closed. Do not store near combustible materials.

#### Storage class

Storage class (TRGS 510): 5.1B: Oxidizing hazardous materials

### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

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## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Ingredients with workplace control parameters

Contains no substances with occupational exposure limit values.

### 8.2 Exposure controls

#### Appropriate engineering controls

Change contaminated clothing. Wash hands after working with substance.

#### Personal protective equipment

##### Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses

##### Skin protection

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested:KCL 741 Dermatril® L

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Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested:KCL 741 Dermatril® L

### **Body Protection**

protective clothing

### **Respiratory protection**

Recommended Filter type: Filter type P2

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer.

These measures have to be properly documented.

required when dusts are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

### **Control of environmental exposure**

Do not let product enter drains.

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## **SECTION 9: Physical and chemical properties**

### **9.1 Information on basic physical and chemical properties**

- |   |                                      |
|---|--------------------------------------|
| a) Appearance                                   | Form: solid                          |
| b) Odor   | odorless                             |
| c) Odor Threshold                               | Not applicable                       |
| d) pH   | 5.5 - 8.0 at 50 g/l at 20 °C (68 °F) |
| e) Melting point/freezing point                 | Melting point: 308 °C (586 °F)       |
| f) Initial boiling point and boiling range      | 380 °C 716 °F                        |
| g) Flash point                                  | ( )does not flash                    |
| h) Evaporation rate                             | No data available                    |
| i) Flammability (solid, gas)                    | The product is not flammable.        |
| j) Upper/lower flammability or explosive limits | No data available                    |
| k) Vapor pressure                               | No data available                    |

l) Vapor density	Not applicable
m) Density	2.26 g/cm <sup>3</sup> at 20 °C (68 °F)
Relative density	No data available
n) Water solubility	874 g/l at 20 °C (68 °F) - soluble
o) Partition coefficient: n-octanol/water	Not applicable for inorganic substances
p) Autoignition temperature	No data available
q) Decomposition temperature	No data available
r) Viscosity	No data available
s) Explosive properties	No data available
t) Oxidizing properties	The substance or mixture is classified as oxidizing with the category 3.

## 9.2 Other safety information

Relative vapor density	Not applicable
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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No data available

### 10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

### 10.3 Possibility of hazardous reactions

Risk of explosion with:

Powdered metals

aluminium oxide

boron phosphide

Cyanides

Acetic anhydride

sodium phosphite

sodium thiosulphate

performic acid

sulfur

Polyvinyl chloride

Risk of ignition or formation of inflammable gases or vapours with:

Risk of explosion with:

organic combustible substances

oxidisable substances

carbon

Arsenic oxides

#### 10.4 Conditions to avoid

Fusion of mixtures of metal cyanides, including lead thiocyanate, with metal chlorates, perchlorates, nitrates or nitrites causes a violent explosion. Addition of one solid component (even as a residue in small amount) to another molten component is also highly dangerous. Heat.

no information available

#### 10.5 Incompatible materials

No data available

#### 10.6 Hazardous decomposition products

In the event of fire: see section 5

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### SECTION 11: Toxicological information

#### 11.1 Information on toxicological effects

##### Acute toxicity

LD50 Oral - Rat - male and female - 3,430 mg/kg

(OECD Test Guideline 401)

Symptoms: Irritation of mucous membranes, Nausea, Vomiting, Diarrhea

Symptoms: Possible damages: , mucosal irritations

LD50 Dermal - Rat - male and female - > 5,000 mg/kg

(OECD Test Guideline 402)

No data available

##### Skin corrosion/irritation

Skin - Rabbit

Result: No skin irritation - 4 h

(OECD Test Guideline 404)

Remarks: The value is given in analogy to the following substances: Ammonium nitrate

##### Serious eye damage/eye irritation

Eyes - Rabbit

Result: irritating

(OECD Test Guideline 405)

##### Respiratory or skin sensitization

Local lymph node assay (LLNA) - Mouse

Result: negative

(OECD Test Guideline 429)

##### Germ cell mutagenicity

Test Type: Mutagenicity (mammal cell test): chromosome aberration.

Test system: Human lymphocytes

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 473

Result: negative

Test Type: Mutagenicity (mammal cell test): chromosome aberration.

Test system: Chinese hamster fibroblasts

Metabolic activation: without metabolic activation

Result: positive

Remarks: (ECHA)

Test Type: Ames test

Test system: Salmonella typhimurium

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: negative

### **Carcinogenicity**

IARC: No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

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.

OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

### **Reproductive toxicity**

No data available

### **Specific target organ toxicity - single exposure**

No data available

### **Specific target organ toxicity - repeated exposure**

No data available

### **Aspiration hazard**

No data available

## **11.2 Additional Information**

Repeated dose toxicity - Rat - male and female - Oral - 28 d - NOAEL (No observed adverse effect level) -  $\geq 1,500$  mg/kg

Remarks: (in analogy to similar products)

The value is given in analogy to the following substances: potassium nitrate

RTECS: WC5600000

Absorption into the body leads to the formation of methemoglobin which in sufficient concentration causes cyanosis. Onset may be delayed 2 to 4 hours or longer.

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

After absorption of large quantities:

Methaemoglobinaemia with headache, cardiac arrhythmia, drop in blood pressure, dyspnoea, and spasms, key symptom: cyanosis (blue colouration of the blood).

The following applies to nitrites/nitrates in general: methaemoglobinaemia after the uptake of large quantities.

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.



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**SECTION 12: Ecological information****12.1 Toxicity**

No data available

Toxicity to daphnia and other aquatic invertebrates      EC50 - Daphnia magna (Water flea) - 3,581 mg/l - 48 h  
Remarks: (IUCLID)

Toxicity to bacteria      static test EC50 - activated sludge - > 1,000 mg/l - 3 h  
(OECD Test Guideline 209)

**12.2 Persistence and degradability**

The methods for determining the biological degradability are not applicable to inorganic substances.

**12.3 Bioaccumulative potential**

No data available

**12.4 Mobility in soil**

No data available

**12.5 Results of PBT and vPvB assessment**

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

**12.6 Endocrine disrupting properties**

No data available

**12.7 Other adverse effects**

No data available

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**SECTION 13: Disposal considerations****13.1 Waste treatment methods****Product**

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

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**SECTION 14: Transport information****DOT (US)**

UN number: 1498    Class: 5.1    Packing group: III  
Proper shipping name: Sodium nitrate  
Reportable Quantity (RQ):  
Poison Inhalation Hazard: No

**IMDG**

UN number: 1498    Class: 5.1    Packing group: III    EMS-No: F-A, S-Q  
Proper shipping name: SODIUM NITRATE

**IATA**

UN number: 1498 Class: 5.1  
Proper shipping name: Sodium nitrate

Packing group: III

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**SECTION 15: Regulatory information****SARA 302 Components**

This material does not contain any components with a section 302 EHS TPQ.

**SARA 313 Components**

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

	CAS-No.	Revision Date
sodium nitrate	7631-99-4	1993-04-24

**SARA 311/312 Hazards**

Reactivity Hazard

**Massachusetts Right To Know Components**

	CAS-No.	Revision Date
sodium nitrate	7631-99-4	1993-04-24

**Pennsylvania Right To Know Components**

	CAS-No.	Revision Date
sodium nitrate	7631-99-4	1993-04-24

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**SECTION 16: Other information****Further information**

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. United Nuclear Scientific and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product.

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