

SECTION 01: PRODUCT AND COMPANY IDENTIFICATION

Product name: Sodium Nitrate
Formula: NaNO₃
Chemical family: Nitrate
Synonyms: Sodium nitrate anhydrous, nitric acid sodium salt, cubic niter, soda niter, Chile saltpeter.
Product use: For laboratory use only

Manufacturer: CLAISSE
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SECTION 02: HAZARDS IDENTIFICATION**Emergency overview**

Target organs: Thyroid, eyes and skin.

WHMIS classification

C Oxidizing Material Oxidizer
D2B Material causing other toxic effects (Subdivision B: Toxic Material)

HMS classification

Health hazard: 2
Chronic health hazard: *
Flammability: 0
Physical hazards: 0

Potential health effects

Inhalation: May be harmful if inhaled. May cause respiratory tract irritation.
Skin: May be harmful if absorbed through skin. May cause skin irritation.
Eyes: Causes serious eye irritation.
Ingestion: May be harmful if swallowed.

GHS and (EC) No 1272/2008 classification

Oxidizing Solid (Category 3)
Eye Irritant (Category 2B)
Germ cell Mutagenicity (Category 2)
STOT – SE (Category 1: blood)
STOT – RE (category 1: blood)

Hazard statements:

H272: May intensify fire; oxidizer.
H320: Causes eye irritation.
H341: Suspected of causing genetic defects.
H370: Cause damage to organs (blood)

Precautionary statements:

- P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P220: Keep/Store away from clothing/reducing agent/combustible materials.
- P264: Wash hands thoroughly after handling.
- P280: Wear protective gloves / protective clothing / 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.

Label elements:
Pictograms:


Signal word:

 Oxidizing Solid
(GHS03)

 Health Hazard
(GHS08)

Other hazards

Results of PBT and vPvB assessment

- PBT: Not applicable.
- vPvB: Not applicable.

SECTION 03: COMPONENT INFORMATION

Compounds	Molecular formula	Molecular Weight (g/mol)	CAS-No.	EC-No.	Index-No.	Concentration (%)
Sodium Nitrate	NaNO ₃	84.99	7631-99-4	231-554-3	-	100.00

SECTION 04: FIRST AID MEASURES
Description of first aid measures
General information

- Seek immediate medical advice.
- Take affected persons out of danger area and lay down.

After inhalation

- In case of unconsciousness, place patient stably in side position for transportation.
- Supply fresh air. If required, provide artificial respiration. Keep patient warm. If symptoms persist, consult a physician.

After skin contact

- Rinse opened eye for several minutes under running water. If symptoms persist, consult a physician.

After eye contact

- Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

After swallowing

- Rinse out mouth and then drink plenty of water. Do not induce vomiting. If symptoms persist, consult a physician.

Most important symptoms and effects, both acute and delayed

No data available.

Indication of any immediate medical attention and special treatment needed

No data available.

SECTION 05: FIRE FIGHTING MEASURES

Conditions of flammability

Not flammable.

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for fire fighters

Wear self-contained breathing apparatus for fire fighting if necessary.

Hazardous combustion products

Hazardous decomposition products formed under fire conditions –nitrogen oxides.

Explosion data – sensitivity to mechanical impact

No data available.

Explosion data – sensitivity to static discharge

No data available.

SECTION 06: ACCIDENTAL RELEASE MEASURES

Personal precautions

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, fumes or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

Environmental precautions

Avoid dispersal of spilled material, runoff and contact with soil waterways, drains and sewers.

Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed and non-leaking containers for local chemical disposal.

Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protective equipment.

See Section 13 for disposal information.

SECTION 07: HANDLING AND STORAGE

Precautions for safe handling

Provide suction extractors if dust is formed.

Do not inhale dust, smoke or mist.

Avoid contact with the eyes and skin.

Prevent formation of dust.

Prevent formation of aerosols.

Conditions for safe storage, including any incompatibilities

Requirements to be met by storerooms and receptacles: no special measures required.

Information about storage in one common storage facility: not required.

Further information about storage conditions: keep container tightly sealed; store receptacle in a well-ventilated area; store in dry conditions (deliquescent).

Specific end use(s)

No data available.

SECTION 08: EXPOSURE CONTROLS/PERSONAL PROTECTION**Control parameters**

These substances do not have occupational exposure limit values.

Personal protective equipment**General protective and hygienic measures**

Keep away from foodstuffs, beverages and feed. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work shifts. Avoid contact with the eyes and skin.

Respiratory protection

For nuisance exposure, use type N95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection, use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection

Handle with gloves. The glove material has to be impermeable and resistant to the product, the substance or preparation. Selection of the glove material must be made considering the penetration times, rates of diffusion and degradation. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.



Protective gloves

Eye protection

Wear safety glasses with side shields conforming to EN 166. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).



Safety glasses with side shields (EN 166)

Skin and body protection

Wear impervious clothing. The type of protective equipment must be selected according to the concentration and amount of dangerous substance at the specific workplace.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Specific engineering controls

Use mechanical exhaust or laboratory fume hood to avoid exposure.

SECTION 09: PHYSICAL AND CHEMICAL PROPERTIES**Appearance**

Form: Crystal
Colour: White

Safety data

pH: 7 at 25°C/77°F in aqueous solution
Melting point: 307°C/584°F
Boiling point: Decompose over 550°C/1022°F
Flash point: No data available
Ignition point: No data available
Autoignition point: No data available
Lower explosion limit: No data available
Upper explosion limit: No data available
Vapour pressure: No data available
Relative density: 2.26 at 20°C/68°F
Water solubility: 921 g/l at 25°C/77°F
Petroleum ether solubility: No data available
Partition coefficient n-octanol/water: No data available
Relative vapour density: No data available
Odour: Odourless
Odour threshold: Not applicable
Evaporation rate: No data available

SECTION 10: STABILITY AND REACTIVITY**Reactivity**

No data available.

Chemical stability

Stable under recommended storage conditions (deliquescent).

Possibility of hazardous reactions

No dangerous reactions known.

Conditions to avoid

Avoid contact reducing agents, combustible material and powdered metals. Avoid exposure to moisture (deliquescent).

Incompatible materials

Flammable/combustible material. Strong reducing agents. Powdered metal.

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions: nitrogen oxides.

SECTION 11: TOXICOLOGICAL INFORMATION
Acute toxicity

Compounds	Oral LD ₅₀	Inhalation LC ₅₀	Dermal LD ₅₀	Other
Sodium Nitrate	3430 mg/kg bw	No data	5000 mg/kg bw	NOEC (inhalation) 1-5 mg/m ³

Repeated exposure toxicity

Compounds	Oral DNEL	Inhalation DNEL	Dermal DNEL	Other
Sodium Nitrate	12.5 mg/kg bw/day	36.7 mg/m ³	20.8 mg/kg bw/day	No data

Skin corrosion/irritation

The substance was classified as "Not classified" (corresponding to Category 3 in the UN-GHS classification) based on the documented case of "mild or light irritation" (EPA RED (1991)).

Serious eye damage/eye irritation

An acute eye irritation/corrosion study was performed with sodium nitrate in accordance with OECD Guideline 405. The hazard statement according to regulations EU CLP (1272/2008/EC) and UN GHS is "Irritating". The substance was classified as Category 2B based on the documented case that the substance caused corneal opacity and it was reversible within 7 days (EPA RED (1991)).

Respiratory or skin sensitization

No data available.

Germ cell mutagenicity (in vitro) – gene mutation

The substance was classified as Category 2 based on negative and positive results in the Ames test and positive results in the chromosome aberration test using cultured cells were reported (IUCRID (2000)).

Germ cell mutagenicity (in vivo) – DNA damage and/or repair

The substance was classified as Category 2 based on the positive results in the in vivo micronucleus test using bone marrow of mice (IARC Vol.94 (2010), ECETOC TR27 (1988)). Positive results in the chromosome aberration test using rats and unclear ambiguous results in the chromosome aberration test using mice have been reported (ECETOC TR27 (1988), confirmed the original paper: Mutat. Res. 155, 121-125 (1985)).

Carcinogenicity

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

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

Reproductive toxicity

No data available.

Teratogenicity

No data available.

STOT-SE (GHS)

It was reported that 15 soldiers who ingested sodium nitrate by mistake instead of table salts became methemoglobinemia, and that 13 ingested about 15 g died, while two ingested 5 g survived (ECETOC TR 27 (1988)). Based on the information, the substance was classified into Category 1 (blood).

STOT - RE (GHS)

With regard to chronic toxicity of general water-soluble nitrates, there were numerous reports of increased methemoglobin concentrations observed in the infants who ingested meal or water containing nitrates, and case reports of methemoglobinemia observed in the patients administered sodium nitrate or ammonium nitrate as a diuretic agent or in the patients treated with ammonium nitrate as an urolithiasis-preventive agent were presented (ECETOC TR27 (1988)). Based on the information, the substance was classified as Category 1 (blood). Besides, the effects on the heart, etc. were reported as ones of nitrates, but these were considered to be secondary effect by methemoglobinemia-induced hypoxia (EHC 5 (1978)).

Aspiration hazard

No data available.

Potential health effects

Inhalation: May be harmful if inhaled. May cause respiratory tract irritation.
 Skin: May be harmful if absorbed through skin. May cause skin irritation.
 Eyes: Causes serious eye irritation.
 Ingestion: May be harmful if swallowed.

Signs and symptoms of exposure

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

Synergistic effects

No data available.

Additional information

Compounds	RTECS
Sodium Nitrate	WC5600000

SECTION 12: ECOLOGICAL INFORMATION
Toxicity

Aquatic toxicity

Compounds	NOEC	LOEC
Sodium Nitrate	No data	No data

Persistence and degradability

No data available.

Bioaccumulative potential

No data available.

Mobility in soil

Water hazard class 1 (German regulation, self-assessment): slightly hazardous for water. Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

PBT and vPvB assessment

No data available.

Other adverse effects

Will affect drinking water supplies. The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have harmful or damaging effects on the environment.

SECTION 13: DISPOSAL CONSIDERATIONS**Product disposal**

The generation of waste should be avoided or minimized wherever possible. Avoid dispersal of spilled material, runoff and contact with soil, waterways, drains and sewers. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional and local authority requirements. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated Packaging Disposal

Dispose as an unused product.

SECTION 14: TRANSPORT INFORMATION**UN number**

ADR, ADN, IMDG, IATA UN1498

UN Proper shipping name

Sodium nitrate.

Transport hazard class(es)

ADR, ADN, IMDG, IATA 5.1

Packing group

ADR/IMDG/IATA III

EmS number

F-A, S-Q

Environmental hazards

Environmentally hazardous substance/marine pollutant: No

Special precaution for user

Not applicable

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable

SECTION 15: REGULATORY INFORMATION**Safety, health and environmental regulations/legislation specific for the substance or mixture**

This safety data sheet complies with the requirements of regulation GHS and (EC) No 1272/2008 classification.

Chemical safety assessment

A chemical safety assessment has not been carried out.

DSL status

All components of this product are on the Canadian DSL list.

WHMIS

C Oxidizing Material Oxidizer
D2B Material causing other toxic effects (Subdivision B: Toxic Material)

This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

SECTION 16: OTHER INFORMATION**Date of issue**

2016-06-16

Notice to the reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the only responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only.

ACGIH: American Conference of Governmental Industrial Hygienists
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterway
b.w.: Body weight
CAA: Clean Air Act
CAS: Chemical Abstracts Service (division of the American Chemical Society)
CEN: European Committee for Standardization
CERCLA: Comprehensive Environmental Response, Compensation and Liability Act
CFR: Code of Federal Regulations
CLP: Classification, Labelling and Packaging
CPR: Controlled Products Regulations
DNEL: Derived No-Effect Level
DSL: Domestic Substance List
EINECS: European Inventory of Existing Commercial Chemical Substances
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
HDPE: High Density PolyEthylene
HEPA: High Efficiency Particulate Air
HMIS: Hazardous Material Information System
IARC: International Agency for Research on Cancer
IATA: International Air Transport Association
IBC: Intermediate Bulk Container
IDLH: Immediately Dangerous to Life or Health Concentrations
IMDG: International Maritime Dangerous Goods Code
LC50: Median Lethal Concentration
LD50: Median Lethal Dose
LOAEL: Lowest Observed Adverse Effect Level
LOEC: Lowest Observable Effect Concentration
MARPOL: MARine POLLution
NIOSH: The National Institute for Occupational Safety and Health
NOAEL: No Observed Adverse Effect Level
NOEC: No Observable Effect Concentration
OECD: Organisation for Economic Co-operation and Development
OSHA: Occupational Safety and Health Administration
PBT: Persistent Bioaccumulative and Toxic
PEL: Permissible Exposure Limits

PNEC:	Predicted No-Effect Concentration
RCF:	Refractory Ceramic Fibers
RTECS:	Registry of Toxic Effects of Chemical Substances
SARA:	Superfund Amendments and Reauthorization Act
SCP:	Standards Completion Program (NIOSH/OSHA)
STEL:	Short Term Exposure Limit
STOT – RE:	Specific Target Organ Toxicity – Repeated exposure
STOT – SE:	Specific Target Organ Toxicity – Single exposure
TLV:	Threshold Limit Value
TSCA:	Toxic Substances Control Act
TWA:	Time-Weighted Average exposure value
UN:	United Nations
vPvB:	very Persistent and very Bioaccumulative
WHMIS:	Workplace Hazardous Materials Information System