SECTION 01: PRODUCT AND COMPANY IDENTIFICATION

Product name: Sodium Tetraborate
Formula: $Na_2B_4O_7$
Chemical family: Borates
Synonyms: Sodium diborate, sodium pyroborate, boron sodium oxide, fused borax
Product use: For laboratory use only

Manufacturer: © CLAISSE
Address: 350, FRANQUET, QUEBEC, QUEBEC
G1P 4P3, CANADA
Phone: 1 418 656-6453
Fax: 1 418 656-1169

Emergency telephone number:
CANUTEC: +1 613 996-6666

SECTION 02: HAZARDS IDENTIFICATION

Emergency overview
Target organs: Central nervous system, kidney, testes.

WHMIS classification
Not regulated.

HMIS classification

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

Potential health effects

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

GHS and (EC) No 1272/2008 classification
Skin irritation (Category 2)
Eye irritation (Category 2A)
Specific target organ toxicity – single exposure (Category 3)

Hazard statements:

H315	Causes skin irritation.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H360	May damage fertility or the unborn child

Precautionary statements:

P201	Obtain special instructions before use
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P264	Wash thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves / protective clothing / eye protection / face protection.
P302+P352	IF ON SKIN: Wash with plenty of soap and water.
P304+P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P308+P313	IF exposed or concerned: Get medical advice/attention

Label elements:

Pictograms:

Signal word: Danger (GHS08)

Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

SECTION 03: COMPONENT INFORMATION

Compound	Molecular formula	Molecular Weight (g/mol)	CAS-No.	EC-No.	Index-No.	Concentration (%)
Sodium Tetraborate	$Na_2B_4O_7$	201.22	1330-43-4	215-540-4	005-011-00-4	100.0

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
Immediately wash with water and soap and rinse thoroughly. If skin irritation persists, consult a physician.

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

After swallowing
Rinse out mouth and then drink plenty of water. 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: FIREFIGHTING MEASURES

Conditions of flammability
Not flammable or combustible.

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 firefighting if necessary.

Hazardous combustion products
Hazardous decomposition products formed under fire conditions: borate/boron oxide, sodium oxide.

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 dust, vapours, fumes or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

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: separate from strong oxidants, store in a well-closed container and in a dry place.
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.

Specific end use(s)

No data available.

SECTION 08: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

TLV (according to ACGIH, 1994-1995): 1 mg/m^3 as TWA
TLV (according to ICSC): 2 mg/m^3 as TWA; 6 mg/m^3 as STEL

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 N100 (US) or type P2 (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:	Powder
Colour:	White

Safety data

pH:	No data available
Melting point:	741°C / 1366°F
Boiling point:	1575°C / 2867°C
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:	1.4 g/cm^3
Water solubility:	25.6 g/L at 20°C
Partition coefficient n-octanol/water:	No data available
Relative vapour density:	No data available
Odour:	No data available
Odour threshold:	No data available
Evaporation rate:	No data available

SECTION 10: STABILITY AND REACTIVITY

Reactivity
No data available.

Chemical stability
Stable under recommended storage conditions.

Possibility of hazardous reactions
No dangerous reactions known.

Conditions to avoid
Moisture, presence of strong oxidant(s).

Incompatible materials
No data available.

Hazardous decomposition products
Hazardous decomposition products formed under fire conditions: borate/boron oxides, lithium oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity

Compound	Oral LD50	Inhalation LC50	Dermal LD50	Other
Sodium Tetraborate	2400-2600 mg/kg (rat)	No data	>2000 mg/kg (rabbit)	No data

Skin corrosion/irritation
No data available.

Serious eye damage/eye irritation
No data available.

Respiratory or skin sensitization
No data available.

Germ cell mutagenicity (in vitro) – gene mutation
No data available.

Germ cell mutagenicity (in vivo) – DNA damage and/or repair
No data available.

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

Reproductive toxicity - rat - oral

Paternal effects on testes, epididymis, sperm duct, prostate, seminal vesicle, Cowper's gland, accessory glands.

Presumed human reproductive toxicant

Teratogenicity

No data available.

Specific target organ toxicity – single exposure (Globally Harmonized System)

Inhalation – may cause respiratory irritation.

Specific target organ toxicity – repeated exposure (Globally Harmonized System)

No data available.

Aspiration hazard

No data available.

Potential health effects

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

Signs and symptoms of exposure

Toxicity reported for borates in humans: ingestion or absorption may cause nausea, vomiting, diarrhea, abdominal cramps, and erythematous lesions on the skin and mucous membranes. Other symptoms include circulatory collapse, tachycardia, cyanosis, delirium, convulsions and coma. Death has been reported to occur in infants from less than 5 grams and in adults from 5 to 20 grams.

This substance irritates the eyes, the skin and the respiratory tract. The substance may cause effects on the central nervous system, kidneys and gastrointestinal tract by ingestion at high dose or through damaged skin. Repeated or prolonged contact with skin may cause dermatitis. The substance may have effects on the respiratory tract.

Synergistic effects

No data available.

Additional information

Compound	RTECS
Sodium Tetraborate	ED4588000

SECTION 12: ECOLOGICAL INFORMATION

Toxicity

Toxicity to fish LC50 - other fish - 74 mg/L - 96 h

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 Not applicable

UN Proper shipping name
Not applicable

Transport hazard class(es)
ADR, ADN, IMDG, IATA Not applicable

Packing group
ADR/IMDG/IATA Not applicable

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 (EC) No. 1907/2006.

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

Not regulated.

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

SECTION 16: OTHER INFORMATION

Date of issue

2012/11/14

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.

Abbreviations and acronyms

ACGIH:	American Conference of Governmental Industrial Hygienists
ADR:	Accord européen sur le transport des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
ADN:	Accord européen relatif au transport international des marchandises Dangereuses par voie de Navigation intérieure (European Agreement concerning the International Carriage of Dangerous Goods by Inland Navigation)
bw:	Body weight
CAS:	Chemical Abstracts Service (division of the American Chemical Society)
CEN:	Central European Norms
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
HMIS:	Hazardous Material Information System
IARC:	International Agency for Research on Cancer
IATA:	International Air Transport Association
IMDG:	International Maritime Code for Dangerous Goods
LC50:	Lethal Concentration which causes the death of 50% of a population
LD50:	Lethal Dose which causes the death of 50% of a population
MARPOL:	MARine POLlution
NIOSH:	The National Institute for Occupational Safety and Health
NOAEL:	No Observable Adverse Effect Level
PBT:	Persistent Bioaccumulative and Toxic
PNEC:	Predicted No-Effect Concentration
RTECS:	Registry of Toxic Effects of Chemical Substances
STOT-RE:	Specific Target Organ Toxicity – Repeated Exposure
STOT-SE:	Specific Target Organ Toxicity – Single Exposure
UN:	United Nations
vPvB:	very Persistent and very Bioaccumulative
WHMIS:	Workplace Hazardous Materials Information System