Safety Data Sheet

According to OSHA HazCom Standard [2012]

Version 1 Reviewed on 03/08/2024

1 Identification

Product identifier

Trade name: Lithium tetraborate/Lithium metaborate/Lithium iodide Claisse Flux

Application of the substance / the mixture:
Laboratory chemicals
Professional use only

Details of the supplier of the safety data sheet

Manufacturer/Supplier:
Alpha Resources LLC

Address: 3090 Johnson Rd. Stevensville, MI, USA

Telephone: (269) 465-5559
Website: www.alpharesources.com
Email: info@alpharesources.com

Emergency telephone number:
CHEMTREC: 1-800-424-9300

2 Hazard(s) identification

Classification of the substance or mixture

Acute Toxicity - Oral 4	H302 Harmful if swallowed.
Eye Damage 1	H318 Causes serious eye damage.
Toxic to Reproduction 2	H361 Suspected of damaging fertility or the unborn child.
Aquatic Acute 3	H402 Harmful to aquatic life.
Aquatic Chronic 3	H412 Harmful to aquatic life with long lasting effects.

Label elements

GHS label elements
The product is classified and labeled according to the Globally Harmonized System (GHS).

Hazard pictograms

GHS05 GHS07 GHS08

Signal word Danger

Hazard-determining components of labeling:
dilithium tetraborate
lithium metaborate

Hazard statements
Harmful if swallowed.
Causes serious eye damage.
Suspected of damaging fertility or the unborn child.
Harmful to aquatic life with long lasting effects.

Precautionary statements:
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Avoid release to the environment.
Wear protective gloves/protective clothing/eye protection/face protection.
If swallowed: Call a poison center/doctor if you feel unwell.
Rinse mouth.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a poison center/doctor.

Trade name: Lithium tetraborate/Lithium metaborate/Lithium iodide Claisse Flux

Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

Classification system:
NFPA ratings (scale 0 - 4)

Health = 3
Fire = 0
Reactivity = 0

HMIS-ratings (scale 0 - 4)

Health = *3
Fire = 0
Reactivity = 0

Other hazards
PBT: Not applicable.
vPvB: Not applicable.

3 Composition/information on ingredients

Description: Mixture: consisting of the following components.

Hazardous Components:		
12007-60-2	dilithium tetraborate Toxic to Reproduction 2, H361; Eye Damage 1, H318; Acute Toxicity - Oral 4, H302	≥10-≤100%
13453-69-5	lithium metaborate Toxic to Reproduction 2, H361; Eye Damage 1, H318; Acute Toxicity - Oral 4, H302	≥10-≤100%
10377-51-2	lithium iodide Acute Toxicity - Oral 4, H302	≥0-<2.5%
Information on components:		
12007-60-2	dilithium tetraborate Toxic to Reproduction 2, H361; Eye Damage 1, H318; Acute Toxicity - Oral 4, H302	≥10-≤100%

4 First-aid measures

Description of first aid measures

General information:
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

After inhalation:
Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.
In case of unconsciousness place patient stably in side position for transportation.

After skin contact:
Immediately wash with water and soap and rinse thoroughly.
If skin irritation continues, consult a doctor.

After eye contact: Rinse opened eye for several minutes under running water. Then consult a doctor.

After swallowing: Call for a doctor immediately.

Most important symptoms and effects, both acute and delayed
Ingestion:
Nausea
Vomiting

Diarrhea

Indication of any immediate medical attention and special treatment needed
Wear the appropriate personal protective equipment according to the incident, injury and surroundings.
Treat symptomatically.
Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

5 Fire-fighting measures

Extinguishing media

Suitable extinguishing agents:
Carbon dioxide (CO_2). Dry chemical. Foam.
Use fire fighting measures that suit the environment.

Special hazards arising from the substance or mixture No further relevant information available.

Advice for firefighters

Protective equipment:
Wear fully protective suit.
Wear self-contained respiratory protective device.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures
Avoid contact with spilled material.
Observe the relevant local and international regulations.
Wear protective equipment. Keep unprotected persons away.
Keep away from ignition sources

Environmental precautions:
Do not allow product to reach sewage system or any water course.
Do not allow to penetrate the ground/soil.
Do not empty into drains or the aquatic environment.

Methods and material for containment and cleaning up:
Use neutralizing agent.
Shovel into a suitable clearly marked container for disposal or reclamation in accordance with local regulations.
Ensure adequate ventilation.
Dispose contaminated material as waste according to section 13.

Reference to other sections
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

Protective Action Criteria for Chemicals

PAC-1:		
12007-60-2	dilithium tetraborate	4.3 mg/m³
13453-69-5	lithium metaborate	6 mg/m³
10377-51-2	lithium iodide	30 mg/m³

PAC-2:		
12007-60-2	dilithium tetraborate	47 mg/m³
13453-69-5	lithium metaborate	77 mg/m³
10377-51-2	lithium iodide	330 mg/m³

PAC-3:		
12007-60-2	dilithium tetraborate	280 mg/m³
13453-69-5	lithium metaborate	460 mg/m³
10377-51-2	lithium iodide	2,000 mg/m³

Trade name: Lithium tetraborate/Lithium metaborate/Lithium iodide Claisse Flux

7 Handling and storage

Precautions for safe handling
Thorough dedusting.
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
Provide suction extractors if dust is formed.
Avoid breathing vapours.
Avoid close or long term contact with the skin.
Wear personal protective equipment when handling.

Information about protection against explosions and fires:
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
Keep respiratory protective device available.

Conditions for safe storage, including any incompatibilities

Requirements to be met by storerooms and receptacles:
Keep container tightly closed.
Store in a dry, cool and well-ventilated area.
Do not store in unlabelled containers.
Store only in the original receptacle.

Information about storage in one common storage facility: Store away from foodstuffs.

Further information about storage conditions:
Keep receptacle tightly sealed.
Protect from heat and direct sunlight.
Store in cool, dry conditions in well sealed receptacles.

Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

Control parameters

Components with limit values that require monitoring at the workplace:
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

Additional information: The lists that were valid during the creation were used as basis.

Exposure controls

Personal protective equipment

General protective and hygienic measures:
The usual precautionary measures for handling chemicals should be followed.
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Store protective clothing separately.
Avoid contact with the eyes and skin.
Ensure good ventilation/exhaustion at the workplace.

Breathing equipment:
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

Protection of hands:

Protective gloves

Trade name: Lithium tetraborate/Lithium metaborate/Lithium iodide Claisse Flux

The glove material must be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Penetration time of glove material
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection:


Tightly sealed goggles

Body protection: Protective work clothing

9 Physical and chemical properties

Information on basic physical and chemical properties

General Information

Appearance:	
Form:	Powder
Color:	White
Odor threshold:	Not determined.
pH-value:	Not applicable.
Melting point/Melting range:	Not determined.
Boiling point/Boiling range:	Not determined.
Flash point:	Not applicable.
Flammability (solid, gaseous):	Not determined.
Auto-ignition temperature:	Not determined.
Decomposition temperature:	Not determined.
Danger of explosion:	Product does not present an explosion hazard. Not determined.
Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
Oxidizing properties	Not determined.
Vapor pressure:	Not determined.
Density:	Not determined.
Relative density	Not determined.
Vapor density	Not applicable.
Evaporation rate	Not applicable.
Solubility in / Miscibility with	
Water:	Soluble.

Trade name: Lithium tetraborate/Lithium metaborate/Lithium iodide Claisse Flux

Partition coefficient (n-octanol/water): Not determined.

Viscosity:
Dynamic: Not applicable.
Kinematic: Not applicable.
VOC content: 0.00 %

Other information No further relevant information available.

10 Stability and reactivity

Reactivity No further relevant information available.

Chemical stability

Thermal decomposition / conditions to be avoided:
No decomposition if used according to specifications.

Possibility of hazardous reactions No dangerous reactions known.

Conditions to avoid Avoid all sources of ignition: heat, sparks, open flames.

Incompatible materials:
Avoid strong acids and bases.
Oxidizing agents.
Reducing agents.

Hazardous decomposition products:
Formation of toxic gases (fumes) is possible during heating or in case fire.

11 Toxicological information

Information on toxicological effects

Acute toxicity:

LD/LC50 values that are relevant for classification:		
12007-60-2 dilithium tetraborate		
Oral	LD50	500 mg/kg (Rat) (OECD 423)
Dermal	LD50	>2,000 mg/kg (Rat) (OECD 402)
13453-69-5 lithium metaborate		
Oral	LD50	500 mg/kg (Rat) (read-across dilithium tetraborate (OECD 423))

Primary irritant effect:
on the skin: No irritant effect.
on the eye: Strong irritant with the danger of severe eye injury.

Sensitization: No sensitizing effects known.

Additional toxicological information:
The product shows the following dangers according to internally approved calculation methods for preparations:
Harmful
Irritant

Carcinogenic categories

IARC (International Agency for Research on Cancer)
None of the ingredients are listed.

NTP (National Toxicology Program)
None of the ingredients are listed.

OSHA-Ca (Occupational Safety & Health Administration)
None of the ingredients are listed.

Trade name: Lithium tetraborate/Lithium metaborate/Lithium iodide Claisse Flux

Reproductive toxicity Repr.2

12 Ecological information

Toxicity

Aquatic toxicity:	
12007-60-2 dilithium tetraborate	
LC50/96h	>100 mg/L (Cyprinus Carpio) (OECD 203)
EC50/48h	>100 mg/L (Daphnia Magna) (OECD 202)
EC50/72h	>100 mg/L (Pseudokirchneriella Subcapitata) (OECD 201)
NOEC	32 mg/L (Pseudokirchneriella Subcapitata) (OECD 201)
13453-69-5 lithium metaborate	
EC50/48h	>100 mg/L (Daphnia Magna) (read-across dilithium tetraborate (OECD 202))

Persistence and degradability No further relevant information available.

Bioaccumulative potential No further relevant information available.

Mobility in soil No further relevant information available.

Ecotoxical effects:
Remark: Harmful to fish

Additional ecological information

General notes:
Water hazard class 2 (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Must not reach bodies of water or drainage ditch undiluted or unneutralized.
Danger to drinking water if even small quantities leak into the ground.
Harmful to aquatic organisms

Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.

Other adverse effects No further relevant information available.

13 Disposal considerations

Waste treatment methods
Recommendation:
Disposal must be made in accordance with official regulations.
Do not allow product to reach sewage system.

Uncleaned packagings:
Recommendation:
Disposal must be made according to official regulations.
Packagings that cannot be cleansed are to be disposed of in the same manner as the product.

14 Transport information

UN-Number
DOT, ADR, IMDG, IATA Not applicable.

UN proper shipping name
DOT, ADR, IMDG, IATA Not applicable.

Transport hazard class(es)

DOT, ADR, ADN, IMDG, IATA
Class Not applicable.

Trade name: Lithium tetraborate/Lithium metaborate/Lithium iodide Claisse Flux

Packing group
DOT, ADR, IMDG, IATA Not applicable.

Environmental hazards: Not applicable.

Special precautions for user Not applicable.

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable.

15 Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture
No further relevant information available.
Sara

Section 355 (extremely hazardous substances):
None of the ingredients are listed.

Section 313 (Specific toxic chemical listings):
None of the ingredients is listed.

Hazardous Air Pollutants
None of the ingredients are listed.

Proposition 65

Chemicals known to cause cancer:
None of the ingredients is listed.

Chemicals known to cause reproductive toxicity for females:
None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for males:
None of the ingredients are listed.

Chemicals known to cause developmental toxicity:
None of the ingredients are listed.

Carcinogenic categories

EPA (Environmental Protection Agency)		
12007-60-2	dilithium tetraborate	I (oral)
13453-69-5	lithium metaborate	I (oral)

TLV (Threshold Limit Value)
None of the ingredients are listed.

NIOSH-Ca (National Institute for Occupational Safety and Health)
None of the ingredients are listed.

GHS label elements
The product is classified and labeled according to the Globally Harmonized System (GHS).
Hazard pictograms

GHS05 GHS07 GHS08

Signal word Danger

Hazard-determining components of labeling:
dilithium tetraborate
lithium metaborate

Trade name: Lithium tetraborate/Lithium metaborate/Lithium iodide Claisse Flux

Hazard statements
Harmful if swallowed.
Causes serious eye damage.
Suspected of damaging fertility or the unborn child.
Harmful to aquatic life with long lasting effects.
Precautionary statements
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Avoid release to the environment.
Wear protective gloves/protective clothing/eye protection/face protection.
If swallowed: Call a poison center/doctor if you feel unwell.
Rinse mouth.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a poison center/doctor.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Contact: info@alpharesources.com
Date of preparation / last revision 03/08/2024

Abbreviations and acronyms:
ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
Acute Toxicity - Oral 4: Acute toxicity – Category 4
Eye Damage 1: Serious eye damage/eye irritation – Category 1
Toxic to Reproduction 2: Reproductive toxicity – Category 2
Aquatic Acute 3: Hazardous to the aquatic environment - acute aquatic hazard – Category 3
Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3