

MATERIAL SAFETY DATA SHEET

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SECTION 01 : PRODUCT IDENTIFICATION

PRODUCT: **LITHIUM TETRABORATE**
FORMULA: $\text{Li}_2\text{B}_4\text{O}_7$
CHEMICAL FAMILY: Borates
SYNONYM: Lithium borates
USE: Flux

SECTION 02 : HAZARD IDENTIFICATION

PHYSICAL STATE: Solid
COLOR: White
RISK STATUS: This product is not classified by the WHMIS in Canada
EMERGENCY OVERVIEW: None specified.
Use with care.
Follow good industrial hygienic practice
ROUTE OF ENTRY: Ingestion, inhalation.

SECTION 03 : COMPONENT INFORMATION

COMPONENT	%	# C.A.S.	DL/50, ESPECE	CL/50, ESPECE
LITHIUM TETRABORATE	100	12007-60-2	N/P	N/P

SECTION 04 : FIRST AID

EYE CONTACT: Check if the victim wear eye contact lenses, if it's the case, remove them. Open victim eye's while under gentle running water. Minimum flushing is for 15 minutes. Get medical care if symptoms occur.

SKIN CONTACT: Wash with water and soap. Get medical care if symptoms occur.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. Get medical care if symptoms occur.

INGESTION: Do not induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention if symptoms appear.

NOTES TO THE PHYSICIAN: No specific antidote. Medical staff must contact Poison Control Center.

SECTION 05 : FIRE FIGHTING MEASURES

IFLAMMABILITY: non-flammable

EXTINGUISHING MEDIA:

Suitable : Use an extinguishing agent suitable for the surrounding fire.

Not suitable: None known. No specific hazard

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTER:

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

SECTION 06 : ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS: Contact emergency personnel. Use suitable protective equipment.

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

METHODS FOR CLEANING UP: Scoop up spilled material and place in a non-leaking container for local chemicals disposal.

SECTION 07 : HANDLING AND STORAGE

HANDLING: Wash thoroughly after handling.

STORAGE: Keep container tightly closed. Keep container in a cool, well-ventilated area.

SECTION 08 : EXPOSURE CONTROLS/PERSONAL PROTECTION

Consult local authorities for acceptable exposure limits.

ENGINEERING MEASURES: No special ventilation required. Good general ventilation should be sufficient to control airborne levels. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

PERSONAL PROTECTION:

EYES: Safety glasses with side shields.

SKIN: Lab coat

RESPIRATORY: Not applicable

HANDS: Suitable gloves



WHMIS CODE/PERSONAL PROTECTIVE EQUIPMENT : A

PERSONAL PROTECTION IN CASE OF A LARGE SPILL :

HYGIENE MEASURES :

Safety glasses, goggles or face shield. Impervious gloves. Full suit. Boots. Wear a NIOSH-approved self contained breathing apparatus or equivalent and full protective gear.

Wash hands, forearms and a face thoroughly after handling compounds and before eating, smoking and using the lavatory and at the end of the day. Follow good industrial hygiene practice.

SECTION 09 : PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE:	Solid
COLOR:	White
MOLECULAR WEIGHT:	169.12 g/mol
MOLECULAR FORMULA:	$\text{Li}_2\text{B}_4\text{O}_7$
MELTING POINT:	917°C
RELATIVE DENSITY:	1.4 g/mL at 20°C
SOLUBILITY:	28.9 g/L at 20°C

SECTION 10 : STABILITY AND REACTIVITY

STABILITY AND REACTIVITY:	The product is stable
INCOMPATIBILITY:	Oxidizing materials.
HAZARDOUS POLYMERIZATION:	Will not occur.

SECTION 11 : TOXICOLOGICAL INFORMATION**ACCUTE EFFECTS**

EYES	None known.
SKIN	None known.
INHALATION	None known.
INGESTION	None known.

CHRONIC EFFECTS:

CARCINOGENIC EFFECT	Not classified by IARC, NTP, OSHA, EU and ACGIH.
MUTAGENIC EFFECT	None known
TERATOGENIC EFFECT	None known

SECTION 12 : ECOLOGICAL INFORMATION

ENVIRONMENT :	No known significant effects or critical hazards
DEGRADATION :	Some metallic oxides.
BIODEGRADATION :	The product itself and its products of degradation are not toxic.

SECTION 13 : DISPOSAL CONSIDERATIONS

WASTE DISPOSAL:

The generation of waste should be avoided or minimized wherever possible. Avoid dispersal of spilled material, run off 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.

SECTION 14 : TRANSPORT INFORMATION

NAERG:

Not applicable.

REGULATORY INFORMATION:

UN/ IMDG/ IATA/ TMD : not regulated

SECTION 15 : REGULATORY INFORMATION

CANADA (WHMIS):

Not regulated

DSL: All compound listed

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

INTERNATIONAL LISTS :

This product is listed on national inventories, or is exempted from being listed, Australia (AICS), in Europe (EINECS/ELINCS), in Korea (TCCL), in Japan (METI), in the Philippines (RA6969).

SECTION 16 : OTHER INFORMATION

Hazardous Material Information System (HMIS)

Health	0
Fire Hazard	0
Physical hazard	0
Personal protection	A

HMIS RATING

4-Extreme

3-Serious

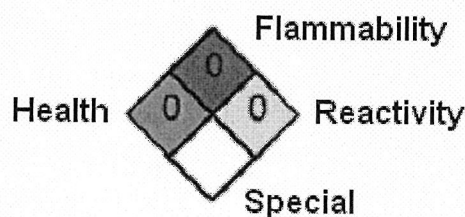
2-Moderate

1-Slight

0-Minimal

See section 8 for more detailed information on personal protection.

National Fire Protection Association (USA)



REFERENCES : AINSI Z400.1, MSDS Standard, 2004.-Material Safety Data Sheet.-
Gazette du Canada Partie II, Vol. 122, No.2 Registration SOR/88-64 31
December 1987 Hazardous Product Act "Ingredient Disclosure List".
Canadian Transport of Dangerous Goods, Regulations Schedules, Clear
Language version 2005.

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