



POST OFFICE BOX 14508  
SAINT LOUIS, MISSOURI 63178, USA

FAX: USA/CANADA 1-800-325-5052 OUTSIDE USA/CANADA 314-771-5757  
TELEX: 910-761-0593 or 434475 ANSWERBACK "SIG OK COLLECT"

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THE WORLD'S FOREMOST MANUFACTURER OF RESEARCH  
BIOCHEMICALS AND DIAGNOSTIC REAGENTS

ATTN: SAFETY DIRECTOR  
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PURCHASING OFFICE  
800 W MAIN ST  
WHITEWATER WI 53190-1705

EMERGENCY PHONE 1-314-771-5765

DATE: 09/08/93  
CUST#: 2-097-94816  
PO#: UND-41251

M A T E R I A L   S A F E T Y   D A T A   S H E E T                      P A G E   1

SECTION 1. ----- CHEMICAL IDENTIFICATION -----

PRODUCT #: L6375                      NAME: LITHIUM SULFATE

SECTION 2. ----- COMPOSITION/INFORMATION ON INGREDIENTS -----

CAS #: 10377-48-7  
MF: LI20451

SYNONYMS  
LITHIUM SULPHATE \* SULFURIC ACID, DILITHIUM SALT \* <sup>®</sup>SULFURIC ACID,  
LITHIUM SALT (1:2) \*

SECTION 3. ----- HAZARDS IDENTIFICATION -----

LABEL PRECAUTIONARY STATEMENTS

HARMFUL  
HARMFUL BY INHALATION, IN CONTACT WITH SKIN AND IF SWALLOWED.  
POSSIBLE RISK OF IRREVERSIBLE EFFECTS.  
POSSIBLE TERATOGEN.  
TARGET ORGAN(S):  
NERVES  
DO NOT BREATHE DUST.  
WEAR SUITABLE PROTECTIVE CLOTHING.

SECTION 4. ----- FIRST-AID MEASURES -----

IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES OR SKIN WITH COPIOUS  
AMOUNTS OF WATER FOR AT LEAST 15 MINUTES WHILE REMOVING CONTAMINATED  
CLOTHING AND SHOES.  
IF INHALED, REMOVE TO FRESH AIR, IF NOT BREATHING GIVE ARTIFICIAL  
RESPIRATION, IF BREATHING IS DIFFICULT, GIVE OXYGEN.  
IF SWALLOWED, WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS.  
CALL A PHYSICIAN.  
WASH CONTAMINATED CLOTHING BEFORE REUSE.

SECTION 5. ----- FIRE FIGHTING MEASURES -----

EXTINGUISHING MEDIA  
NONCOMBUSTIBLE.  
USE EXTINGUISHING MEDIA APPROPRIATE TO SURROUNDING FIRE CONDITIONS.  
SPECIAL FIRE FIGHTING PROCEDURES  
WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING TO  
PREVENT CONTACT WITH SKIN AND EYES.

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BRANCH OFFICES AT:

SIGMA CHEMIE GmbH  
Grünwalder Weg 30  
D-8024 Deisenhofen  
Deutschland.

SIGMA QUIMICA  
Apt. Correos 161  
28100 Alcobendas (Madrid)  
España.

SIGMA-ALDRICH, s.r.o.  
Krizikova 27  
180 00 Praha 8  
Czechoslovakia

SIGMA CHEMIE  
K. Cardijnplein, 8  
B-2880 Bornem  
Belgie/Belgique.

SIGMA CHEMIE  
P.O. Box 260  
CH-9470 Buchs  
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MF: LI20451

NAME: LITHIUM SULFATE

UNUSUAL FIRE AND EXPLOSIONS HAZARDS  
EMITS TOXIC FUMES UNDER FIRE CONDITIONS.

SECTION 6. - - - - - ACCIDENTAL RELEASE MEASURES - - - - -

EVACUATE AREA.  
WEAR SELF-CONTAINED BREATHING APPARATUS, RUBBER BOOTS AND HEAVY  
RUBBER GLOVES.  
SWEEP UP, PLACE IN A BAG AND HOLD FOR WASTE DISPOSAL.  
AVOID RAISING DUST.  
VENTILATE AREA AND WASH SPILL SITE AFTER MATERIAL PICKUP IS COMPLETE.

SECTION 7. - - - - - HANDLING AND STORAGE - - - - -  
REFER TO SECTION 8.

SECTION 8. - - - - - EXPOSURE CONTROLS/PERSONAL PROTECTION - - - - -

WEAR APPROPRIATE NIOSH/MSHA-APPROVED RESPIRATOR, CHEMICAL-RESISTANT  
GLOVES, SAFETY GOGGLES, OTHER PROTECTIVE CLOTHING.  
USE ONLY IN A CHEMICAL FUME HOOD.  
SAFETY SHOWER AND EYE BATH.  
DO NOT BREATHE DUST.  
DO NOT GET IN EYES, ON SKIN, ON CLOTHING.  
AVOID PROLONGED OR REPEATED EXPOSURE.  
WASH THOROUGHLY AFTER HANDLING.  
POSSIBLE TERATOGEN.  
HARMFUL SOLID.  
KEEP TIGHTLY CLOSED.  
HYGROSCOPIC  
STORE IN A COOL DRY PLACE.

SECTION 9. - - - - - PHYSICAL AND CHEMICAL PROPERTIES - - - - -

APPEARANCE AND ODOR  
WHITE GRANULAR POWDER  
MELTING POINT: 845 C  
SPECIFIC GRAVITY: 2.220

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MF: LI2O4S1

SECTION 10. - - - - - STABILITY AND REACTIVITY - - - - -

INCOMPATIBILITIES  
STRONG OXIDIZING AGENTS  
HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS  
SULFUR OXIDES

SECTION 11. - - - - - TOXICOLOGICAL INFORMATION - - - - -

ACUTE EFFECTS  
HARMFUL IF SWALLOWED, INHALED, OR ABSORBED THROUGH SKIN.  
MAY CAUSE IRRITATION.

CHRONIC EFFECTS  
OVEREXPOSURE MAY CAUSE REPRODUCTIVE DISORDER(S) BASED ON TESTS WITH  
LABORATORY ANIMALS.  
TARGET ORGAN(S):  
NERVES  
TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND  
TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED.

ADDITIONAL INFORMATION  
LARGE DOSES OF LITHIUM ION HAVE CAUSED DIZZINESS AND PROSTRATION, AND  
CAN CAUSE KIDNEY DAMAGE IF SODIUM INTAKE IS LIMITED. DEHYDRATION,  
WEIGHT LOSS, DERMATOLOGICAL EFFECTS AND THYROID DISTURBANCES HAVE BEEN  
REPORTED. CENTRAL NERVOUS SYSTEM EFFECTS THAT INCLUDE SLURRED SPEECH,  
BLURRED VISION, SENSORY LOSS, ATAXIA AND CONVULSIONS MAY OCCUR.  
DIARRHEA, VOMITING AND NEUROMUSCULAR EFFECTS SUCH AS TREMOR, CLONUS  
AND HYPERACTIVE REFLEXES MAY OCCUR AS A RESULT OF REPEATED EXPOSURE TO  
LITHIUM ION.

RTECS NO: DJ6419000  
LITHIUM SULFATE (2:1)

TOXICITY DATA  
ORL-MUS LD50:1190 MG/KG                      RPTOAN 33,266,70  
SCU-MUS LD50:953 MG/KG                      RPTOAN 33,266,70  
IMS-MAM LD50:560 MG/KG                      FATOBP 9,113,74

TARGET ORGAN DATA  
BEHAVIORAL (COMA)  
ONLY SELECTED REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES  
(RTECS) DATA IS PRESENTED HERE. SEE ACTUAL ENTRY IN RTECS FOR  
COMPLETE INFORMATION.

SECTION 12. - - - - - ECOLOGICAL INFORMATION - - - - -  
DATA NOT YET AVAILABLE.

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SECTION 13. ----- DISPOSAL CONSIDERATIONS -----

FOR SMALL QUANTITIES: CAUTIOUSLY ADD TO A LARGE STIRRED EXCESS OF WATER. ADJUST THE PH TO NEUTRAL, SEPARATE ANY INSOLUBLE SOLIDS OR LIQUIDS AND PACKAGE THEM FOR HAZARDOUS-WASTE DISPOSAL. FLUSH THE AQUEOUS SOLUTION DOWN THE DRAIN WITH PLENTY OF WATER. THE HYDROLYSIS AND NEUTRALIZATION REACTIONS MAY GENERATE HEAT AND FUMES WHICH CAN BE CONTROLLED BY THE RATE OF ADDITION. OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.

SECTION 14. ----- TRANSPORT INFORMATION -----

CONTACT SIGMA CHEMICAL COMPANY FOR TRANSPORTATION INFORMATION.

SECTION 15. ----- REGULATORY INFORMATION -----

REVIEWS, STANDARDS, AND REGULATIONS  
NDS 1974: HZD 81880; NIS 5; TNE 516; NOS 6; TNE 4562  
NDS 1983: HZD 81880; NIS 9; TNE 338; NOS 14; TNE 9278; TFE 5149  
EPA TSCA CHEMICAL INVENTORY, JUNE 1990

SECTION 16. ----- OTHER INFORMATION -----

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