



MATERIAL SAFETY DATA SHEET
COMPLIES WITH 29 CFR 1910.1200.
OSHA HAZARD COMMUNICATION RULE

DATE OF LAST REVISION: 05-13-96

CHEMICAL IDENTITY

LABEL IDENTITY	LITHIUM CARBONATE
CHEMICAL NAME/SYNONYMS	LITHIUM CARBONATE
FORMULA	Li₂CO₃
CAS REGISTRY NUMBER	554-13-2
HAZARDOUS INGREDIENTS	Lithium is a compound not a mixture

PHYSICAL AND CHEMICAL PROPERTIES

COLOR, FORM AND ODOR	White granules or powder, odorless
BOILING POINT	No data
DENSITY (gm/cc)	No data
VAPOR PRESSURE @ 20°	effectively zero at 20°C
% VOLATILE BY VOLUME (%)	No data
REACTION WITH WATER	No data
EVAPORATION RATE (H ₂ O=1)	No data
SOLUBILITY IN WATER	No data
MELTING POINT	618°C
OTHER	99% Li₂CO₃ basic - pH 11.4

FIRE AND EXPLOSION HAZARD DATA

FLASH POINT	Not flammable
AUTOIGNITION TEMPERATURE (°C)	Not flammable
FLAMMABILITY	Not flammable
EXTINGUISHING MEDIA	Not flammable
SPECIAL FIRE FIGHTING PROCEDURES	Not flammable
UNUSUAL FIRE & EXPLOSION HAZARDS	Not flammable



LITHIUM CARBONATE MATERIAL SAFETY DATA SHEET

HEALTH HAZARD INFORMATION

TOXICITY DATA **No data**
HMIS RATING:
HEALTH: **na** FLAMMABILITY: **na** REACTIVITY: **na** PERSONAL PROTECTION: **na**

ROUTES OF ENTRY INHALATION: **Yes**
SKIN: **No**
INGESTION: **Yes**

MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE: **may cause a higher risk of birth defects in pregnant mothers**

EFFECTS OF OVEREXPOSURE (acute and chronic):

******please see attached sheet for all pertinent information******

CARCINOGENICITY: No NTP: No IARC MONOGRAPHS: No OSHA REGULATE: No

EMERGENCY FIRST AID PROCEDURES:

INGESTION: **of accidental overdose (over 1000mg) seek immediate medical attention**
INHALATION: **of accidental overdose (over 1000mg) seek immediate medical attention**
SKIN CONTACT: **practice proper hygiene**
EYE CONTACT: **flush eyes thoroughly with potable water for 15 minutes**

REACTIVITY DATA

STABILITY **Stable**
CONDITIONS CONTRIBUTING TO UNSTABILITY **Incompatible with concentrated acids**
INCOMPATIBILITY (MATERIALS TO AVOID) **Concentrated acids**
HAZARDOUS DECOMPOSITION PRODUCTS **No data**
HAZARDOUS POLYMERIZATION **No data**
CONDITIONS TO AVOID **No data**



LITHIUM CARBONATE MATERIAL SAFETY DATA SHEET

SAFE HANDLING AND USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Sweep up and return to container. Small quantities may be washed away with water.

WASTE DISPOSAL METHOD:

Consult federal, state and local regulations for proper disposal.

SPECIAL PROTECTIVE INFORMATION

RESPIRATORY PROTECTION	NIOSH approved dust respirator
LOCAL EXHAUST	No data
MECHANICAL (general)	Do not exceed 5mg/m3
SPECIAL	NA
OTHER	NA
PROTECTIVE GLOVES	Recommended
EYE PROTECTION	Goggles are recommended
OTHER PROTECTIVE EQUIPMENT	full length clothing to help prevent lithium carbonate from contact with body moisture

SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING/STORAGE:

No special precautions.

TRANSPORTATION REQUIREMENTS	DOT CLASS:	NA
	UN NUMBER:	NA
	IMCO CLASS:	NA
	OTHER:	NA

PRECAUTIONARY LABELING **NONE**

THE ABOVE INFORMATION IS ACCURATE TO THE BEST OF OUR KNOWLEDGE. HOWEVER, SINCE DATA, SAFETY STANDARDS AND GOVERNMENT REGULATIONS ARE SUBJECT TO CHANGE THE CONDITIONS OF HANDLING AND USE, OR MISUSE ARE BEYOND OUR CONTROL, **ANGSTROM SCIENCES** MAKE NO WARRANTY, EITHER EXPRESSED OR IMPLIED, WITH RESPECT TO THE COMPLETENESS OR CONTINUING ACCURACY OF THE INFORMATION CONTAINED HEREIN AND DISCLAIMS ALL LIABILITY FOR THE RELIANCE THEREON. USER SHOULD SATISFY HIMSELF THAT HE HAS ALL CURRENT DATA RELEVANT TO HIS PARTICULAR USE.

NA= NOT APPLICABLE

ND= NO DATA FOUND



SECTION 5: EFFECTS OF OVEREXPOSURE

by the RCRA definition of acute toxicity, lithium carbonate is not a toxic chemical. Lithium carbonate is widely used as a medication for manic-depression. Thus, a substantial amount of information has been developed on its use for such purposes and on the effects and treatment of overexposure and overdose conditions. The typical therapeutic dosage level in treatment is about 1000mg per day. Animal tests have shown LD50 (lethal dose for 50% fatality) through ingestion at substantially higher levels (over 500mg/kg body-weight-equivalent to 35,000mg for an average person). Exposure to lithium carbonate at the level of 30 liters per minute, would lead to the inhalation of approximately 72mg for such day.

Human case studies reveal that there is a slightly higher than normal incidence of birth defects among manic-depressive women on therapeutic dosage levels of lithium carbonate during pregnancy. In addition, some animal studies have shown a relationship between the administration of lithium carbonate to pregnant females at dosage levels equivalent or higher than human therapeutic dosage levels and an increase in birth defects. Therefore, lithium carbonate at those levels may be considered potentially teratogenic (ie: potentially interfering with normal embryo development) although the evidence on this is not conclusive. There is no evidence of teratogenic effects at lower levels and in view of the overall evidence, lithium carbonate would not be expected to be teratogenic at such low levels. Nevertheless, we recommend that pregnant women in the first trimester be excluded from processes where exposure is in excess of 5mg/m³

POTENTIAL FOR CARCINOGENICITY: lithium carbonate is not listed as a carcinogen or potential carcinogen by the National Toxicology Program of the U.S. Public Health Service, nor has it been found to be a carcinogen or potential carcinogen by OSHA or the International Agency for Research on Cancer. Angstrom Sciences is not aware of any data indicating that lithium carbonate produces cancer.

CALIFORNIA PROPOSITION 65: on January 1, 1991, the state of California added Lithium carbonate to its list: "Chemicals known to the state to cause reproductive toxicity" In California workers exposed to lithium carbonate must each be warned as follows: "WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

SECTION 9: SPECIAL

PROTECTIVE MEASURES DURING REPAIR AND MAINTENANCE: Thoroughly clean equipment before repairs. Wash out with water and collect the solution in storage containers. Wear personal protective equipment during cleanup or repair to prevent the lithium carbonate from contact with skin and eyes. If there is a possibility of producing a mist during clean out, wear NIOSH-approved mist respirator.