

Material Safety Data Sheet

Issued Jul-29-2003

Section 1: Identification of the substance and manufacturer

Trade name **DAI-EL LT-Series**
 Grade LT-252, LT-254, LT-271, LT-302, LT-303, LT-303L, LT-304
 Synonym Fluoroelastomer

Application Seal material, O-ring with chemical and heat resistance

Company identification
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Section 2: Composition / information on ingredients

Component	CAS RN	mass %	Symbol	R-phrases
Fluoroelastomer	Confidential	>98.0%	n.ap	n.ap

Section 3: Hazard identification

Skin Burns from contact with molten material. Signs/symptoms may include burning pain, red and swollen skin, and blisters.

Danger! Vapors and fumes liberated during hot processing (above 200 deg C) with this material may cause flu-like symptoms (chills, fever, sore throat) that may not occur until several hours after exposure and typically pass within about 36 to 48 hours.

Section 4: First aid measures

Inhalation If decomposed gas is inhaled, fresh air, rest. Refer for medical attention.

Skin Contact The compound is not likely to be hazardous, but cleansing the skin after use. If skin contact with hot material occurs: DO NOT ATTEMPT TO REMOVE MOLTEN MATERIAL. Immediately flush affected area with plenty of cold water and cover with a clean dressing. Have burn treated by a physician.

Eyes Contact Eyes contact is not considered a potential route of exposure. If eyes contact with hot material occurs, first rinse with plenty of water for at least 5 minutes (remove contact lenses if easily possible), then take to a doctor.

Ingestion Ingestion is not considered a potential route of exposure.

SECTION 5: Fire-fighting measures

General Information	Non-flammable. Wear self-contained breathing apparatus (SCBA) and full protective gear. Use water spray to cool fire exposed containers. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.
Extinguishing Media	Water, powder, alcohol-resistant foam, carbon dioxide.
Combustion products	These products are harmful CO, CO ₂ , halogenated compounds.

WARNING: TOXIC FLUORINE COMPOUNDS EVOLVED IN FIRE.

SECTION 6: Accidental release measures

Spills/leaks is not considered.

SECTION 7: Handling and storage**HANDLING**

Keep containers tightly closed when not in use.
Wear suitable protective clothing (see section 8)
Exposure to toxic gases through inhalation can occur if smoking tobacco becomes contaminated by this material. Therefore, do not smoke in the work areas and wash hands and face after handling in order to avoid transfer of the material onto smoking tobacco.

STORAGE

Keep away from heat, steam or sunlight.
Keep containers tightly closed when not in use.

SECTION 8: Exposure controls / personal protectionEngineering Controls

Use local exhaust ventilation facilities. When molding or curing.
If user operations generate fume, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Exposure Limits

HF	TLV (as F): 0.5 ppm as TWA, 2 ppm as STEL; Ceiling (skin) (ACGIH 2005) MAK: 3ppm; 2.5mg/m ³ , BAT 7mg/g creatinine (1999) MAK as STEL: 6ppm, 5mg/m ³ (1999)
COF ₂	TLV: 2ppm; 5.4mg/m ³ (as TWA); 5ppm; 13mg/m ³ (as STEL) (ACGIH 1997)
PFIB	TLV: 0.01ppm; 0.082 mg/m ³ (ceiling values) (ACGIH 1993-1994).
CH ₃ I	TLV: 2 ppm; 12 mg/m ³ as TWA (skin) (ACGIH 1998).

Personal Protective Equipment

Wear safety glasses with side shields.
Wear appropriate gloves, when handling this material to prevent thermal burns.
Wear protective clothing and boots as required.

If thermal decomposition occurs:
Mask for acidic gases must be used to avoid inhalation of the product.

SECTION 9: Physical and chemical properties

Appearance	White to clear sheet
Odor	no
PH	n.ap
Specific gravity	1.79 at 20 deg C
Solubility in water	Insoluble
Solubility	Soluble in ketones, esters, ethers and perfluoroalkanes

Flash Point none
 Explosion Limits Lower: none Upper: none

SECTION 10: Stability and reactivity

Chemical Stability	Stable under normal temperatures and pressures.
Conditions to Avoid	Ignition sources, excess heat.
Incompatibility (materials to avoid)	Finely divided metallic powder or filler, such as aluminum and magnesium. Contact with oxidizer, such as F ₂ and Cl ₃ F, can cause fire or explosion.
Hazardous Decomposition Products	Carbon monoxide, carbon dioxide, HF, COF ₂ and PFIB and CH ₃ I.
Polymerization	Will not occur.

SECTION 11: Toxicological information

When compound is handled in heated for a long time, a very small quantity of hydrogen fluoride (HF), carbonyl fluoride (COF₂) Perfluoroisobutylene (PFIB) is generated. Further the higher temperature, (above 300 deg C) the larger it will increase.

(as HF or COF₂)

Burning sensation. Cough. Dizziness. Headache. Laboured breathing. Nausea. Shortness of breath. Sore throat. Vomiting. Symptoms may be delayed. Inhalation of this gas or vapour may cause lung oedema.

(as PFIB)

The substance irritates the respiratory tract. Inhalation of this gas may cause lung oedema. Exposure may result in death. The effects may be delayed. Medical observation is indicated.

(as CH₃I)

The substance irritates the eyes, the skin and the respiratory tract. Inhalation of may cause lung oedema. The substance may cause effects on the central nervous system and kidneys. Exposure at high levels may result in unconsciousness. The effects may be delayed. Medical observation is indicated.

SECTION 12: Ecological information

Exotoxicity	Exotoxicity is expected to be low based on the near zero water solubility of the polymer. Material is considered inert and not expected to be biodegradable or toxic.
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SECTION 13: Disposal considerations

Dispose of in compliance with Federal, state and local government regulations. Usually considered an inert packaging material that can be recycled or landfilled. Incineration is not a preferred disposal method because of the possible formation of hydrogen fluoride.

SECTION 14: Transport information

Hazard Class	Not regulated.
UN Number	Not applicable, none assigned.

SECTION 15: Regulatory information

EINECS	listed (monomer)
TSCA	listed
Japan (ENCS)	listed

SECTION 16: Other information

NFPA-HMIS RATINGS (SCALE 0-4): HEALTH=1, FIRE=1, REACTIVITY=0

European Labeling in Accordance with EC Directives

Hazard Symbols -

Risk Phrases -

Safety Phrases 15: Keep away from heat.
20/21: When using, do not eat, drink or smoke.

This product is not designed, manufactured, or intended for medical uses, including implantation to the body or other applications in direct contact with body fluids or tissues.
Do not use for non-industrial applications.

The information in this Material Safety Data Sheet (MSDS) is believed to be correct as of the date issued. The information does not relate to use in combination with any other material or in any process.

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