FUTUREFUEL™
CHEMICAL COMPANY
Superior chemistry. Sustainable fuels.

MATERIAL SAFETY DATA SHEET

Revision Date: 10/22/2009
MSDSANSI/ANSI/EN/150000000043/Version 6.1

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name	FutureChem LiSIPA
Product Identification Number(s)	05859-00, P0585903, P0585904, P0585907, P0585908, E0585901, P058590S
Manufacturer/Supplier	FutureFuel Chemical Company Gap Road 2800 Batesville, AR 72503 US
MSDS Prepared by	Product Safety and Health
Chemical Name	5-sulfo-1,3-benzenedicarboxylic acid, monolithium salt
Synonym(s)	5-LiSIPA (Lithium Salt of 5-(Sulfo) Isophthalic Acid 374768
Molecular Formula	C8H5LiO7S
Molecular Weight	252.13
Product Use	chemical intermediate
OSHA Status	hazardous

For product information telephone FutureFuel Chemical Company 870-698-3000, 8:00 am - 4:00 pm, Central.

Emergency telephone CHEMTREC: US 800-424-9300, international 703-527-3887

2. COMPOSITION INFORMATION ON INGREDIENTS

(Typical composition is given, and it may vary. A certificate of analysis can be provided, if available.)

Weight %	Component	CAS Registry No.
>91%	5-lithiosulfoisophthalic acid	46728-75-0
<10%	water	7732-18-5
<1.5%	impurities	not applicable

3. HAZARDS IDENTIFICATION

WARNING!
CAUSES EYE BURNS
CAN DECOMPOSE AT ELEVATED TEMPERATURES

HMIS® Hazard Ratings: Health - 3, Flammability -1, Chemical Reactivity - 1

HMIS® rating involves data interpretations that may vary from company to company. They are intended only for rapid, general identification of the magnitude of the specific hazard. To deal adequately with the safe handling of this material, all the information contained in this MSDS must be considered.

4. FIRST-AID MEASURES

Inhalation: If symptomatic, move to fresh air. Get medical attention if symptoms persist.

Eyes: Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention immediately.
Skin: Wash with soap and water. Get medical attention if symptoms occur.
Ingestion: Seek medical advice.

5. FIRE FIGHTING MEASURES

Extinguishing Media: water spray, dry chemical, carbon dioxide
Special Fire-Fighting Procedures: Wear self-contained breathing apparatus and protective clothing. Use water spray to keep fire-exposed containers cool.
Hazardous Combustion Products: carbon dioxide, carbon monoxide
Unusual Fire and Explosion Hazards: Powdered material may form explosive dust-air mixtures. Elevated temperatures can cause decomposition.

6. ACCIDENTAL RELEASE MEASURES

Wear appropriate personal protective equipment. Sweep up and place in a clearly labeled container for chemical waste.
For Large Spills: Flush spill area with water spray. Prevent runoff from entering drains, sewers, or streams. Dike for later disposal.

7. HANDLING AND STORAGE

Personal Precautionary Measures: Do not get in eyes. Wash thoroughly after handling.
Prevention of Fire and Explosion: Keep from contact with oxidizing materials. Minimize dust generation and accumulation. In the United States of America, refer to NFPA® Pamphlet No. 654, "Prevention of Fire and Dust Explosions in the Chemical, Dye, Pharmaceutical, and Plastics Industries." Exercise caution if heating, especially in a closed container.
Storage: Keep container closed. Store in a cool place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Country specific exposure limits have not been established or are not applicable unless listed below.

Ventilation: Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.
Respiratory Protection: If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. In the United States of America, if respirators are used, a program should be instituted to assure compliance with OSHA Standard 63 FR 1152, January 8, 1998. Respirator type: Air-purifying respirator with an appropriate, government approved (where applicable), air-purifying filter, cartridge or canister. Contact health and safety professional or manufacturer for specific information.
Eye Protection: Wear safety glasses with side shields (or goggles).
Skin Protection: It is a good industrial hygiene practice to minimize skin contact.
Recommended Decontamination Facilities: eye bath, washing facilities

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical Form: solid (powder)
Color: off-white
Odor: slight
Specific Gravity: > 1
Melting Point: 400 °C
Boiling Point: sublimes
Solubility in Water: appreciable
Octanol/Water Partition Coefficient: P: <1.1; log P: <0.04
Flash Point: not applicable, combustible solid
Thermal Decomposition Temperature: 423 °C (DSC) Curve did not return to baseline.

10. STABILITY AND REACTIVITY

Stability:	Stable. Material can decompose at elevated temperatures. Use caution when storing or processing material above 221 °C.
Incompatibility:	Material reacts with strong oxidizing agents.
Hazardous Polymerization:	Will not occur.

11. TOXICOLOGICAL INFORMATION

Skin: May cause irritation when held in occluded contact with the skin.
Acute toxicity data, if available, are listed below. Additional toxicity data may be available on request.

Oral LD-50:(rat)	2,263 mg/kg
Oral LD-50:(mouse)	2,540 mg/kg
Dermal LD-50: (guinea pig)	> 1,000 mg/kg
Skin Irritation (guinea pig)	slight
Eye Irritation (rabbit, unwashed eyes)	strong
Eye Irritation (rabbit, washed eyes)	slight
Skin Sensitization: (guinea pig)	none

12. ECOLOGICAL INFORMATION

Acute toxicity data, if available, are listed below. Additional toxicity data may be available on request.
Oxygen Demand Data:

COD (Chemical Oxygen Demand):: 880 mg/g

Acute Aquatic Effects Data:

96 h LC-50 (fathead minnow): > 100 mg/l
96 h LC-50 (sideswimmer): > 100 mg/l
96 h LC-50 (daphnid):
96 h LC-50 (flatworm): > 100 mg/l
96 h LC-50 (snail): > 100 mg/l
96 h LC-50 (segmented worm): > 100 mg/l

13. DISPOSAL CONSIDERATIONS

Discharge, treatment, or disposal may be subject to national, state, or local laws. Incinerate. Since emptied containers retain product residue, follow label warnings even after container is emptied.

14. TRANSPORT INFORMATION

Important Note: Shipping descriptions may vary based on mode of transport, quantities, package size, and/or origin and destination. Consult your company's Hazardous Materials/Dangerous Goods expert for information specific to your situation.

DOT (USA)

Class not regulated

Sea - IMDG (International Maritime Dangerous Goods)

Class not regulated

Air - ICAO (International Civil Aviation Organization)

Class not regulated

15. REGULATORY INFORMATION

SARA 311-312 Hazard Classification(s):
immediate (acute) health hazard

SARA 313: none, unless listed below

Carcinogenicity Classification (components present at 0.1% or more): none, unless listed below

TSCA (US Toxic Substances Control Act): This product is listed on the TSCA inventory. Any impurities present in this product are exempt from listing.

DSL (Canadian Domestic Substances List) and CEPA (Canadian Environmental Protection Act): All components of this product are listed on the DSL. Any impurities present in this product are exempt from listing.

EINECS (European Inventory of Existing Commercial Chemical Substances): This product is listed on EINECS or otherwise complies with EINECS requirements. **EINECS Number:** 256-275-4

AICS / NICNAS (Australian Inventory of Chemical Substances and National Industrial Chemicals Notification and Assessment Scheme): One or more components of this product are not listed on AICS.In Australia, its use is restricted to research and development purposes only.

MITI (Japanese Handbook of Existing and New Chemical Substances): This product is listed in the Handbook or has been approved in Japan by new substance notification.

ECL (Korean Toxic Substances Control Act): All components of this product are listed on the Korean inventory or otherwise comply with the Korean Toxic Substances Control Act.

Inventory of Existing Chemical Substances in China: All components of this product are listed on the Inventory of Existing Chemical Substances in China (IECSC).

16. OTHER INFORMATION

The information contained herein is based on current knowledge and experience; no responsibility is accepted that the information is sufficient or correct in all cases. Users should consider these data only as a supplement to other information. Users should make independent determinations of suitability and completeness of information from all sources to assure proper use and disposal of these materials, the safety and health of employees and customers, and the protection of the environment.

Highlighted areas indicate new or changed information.