

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT, CALL CHEMTREC - DAY OR NIGHT 1-800-424-9300

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

- 1.1.1 **PRODUCT IDENTIFIER:** CONTROL OF CERTAIN WEEDS IN COTTON, DRY BEANS, POTATOES, SNAP BEANS, SOYBEANS
TRADE NAME: TOP GUN FLEX
- 1.2 **RECOMMENDED USE:** GROUP 14 HERBICIDE
- 1.3 **SUPPLIER DETAILS:**
LOVELAND PRODUCTS, INC.
P.O. Box 1286 • Greeley, CO 80632-1286
- 1.4 **24 Hour Emergency Phone:** 1-800-424-9300 - **Medical Emergencies:** 1-866-944-8565 – **Product Information:** 1-888-574-2878 (LPI-CUST)
U.S. Coast Guard National Response Center: 1-800-424-8802

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to 29 CFR 1910.1200

Acute Toxicity – Oral	Category 4	H302
Acute Toxicity – Dermal	Category 4	H312
Acute Toxicity – Inhalation	Category 4	H332
Sensitization – Skin	Category 1	H317
Eye Damage/Irritation	Category 2A	H319

2.2 Label elements



Signal word: WARNING
 Hazard Statement: H302 – Harmful if swallowed.
 H312 – Harmful in contact with skin.
 H332 – Harmful if inhaled.
 H317 – May cause an allergic skin reaction.
 H319 – Causes serious eye irritation.

Precautionary Statement: (Prevention): P264 – Wash thoroughly after handling.
 P270 – Do not eat, drink or smoke when using this product.
 P280 – Wear protective gloves/protective clothing/eye protection/face protection.
 P261 – Avoid breathing dust/fume/gas/mist/vapors/spray.
 P271 – Use only outdoors or in a well-ventilated area.
 P272 – Contaminated work clothing must not be allowed out of the workplace.

Precautionary Statement: (Response): P301+P312: IF SWALLOWED: Call a poison center or doctor/physician if you feel unwell.
 P330 – Rinse mouth.
 P302+P352: IF ON SKIN: Wash with plenty of soap and water.
 P312 – Call a poison center or doctor/physician if you feel unwell.
 P321 – Specific treatment (see FIRST AID statements on the product label).
 P362 – Take off contaminated clothing and wash it before reuse.
 P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 P312 – Call a poison center or doctor/physician if you feel unwell.
 P333+P313 – If skin irritation or rash occurs: Get medical advice/attention.
 P321 – Specific treatment (see FIRST AID statements on the product label).
 P363 – Wash contaminated clothing before reuse.
 P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P337+P313 – If eye irritation persists: Get medical advice/attention.



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Precautionary Statement: (Storage): Not required.

Precautionary Statement: (Disposal): P501 – Dispose of contents/container in accordance with all local, state and federal regulations.

2.3 Other hazards
None known

3. COMPOSITION, INFORMATION ON INGREDIENTS

3.1 Substances

3.2 Mixtures

Classification according to 29 CFR 1910.1200

Chemical Name:	CAS No.	Concentration [%]
Sodium Salt of Fomesafen	108731-70-0	22.10
*Other ingredients		77.90

*Ingredients not specifically listed are non-hazardous or are to be considered proprietary or confidential business information per 29 CFR 1910.1200(i)

4. FIRST AID MEASURES

4.1 Description of First Aid Measures

General Advice: Get medical attention if symptoms occur.

- If in eyes:** Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.
- If swallowed:** Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.
- If on skin or clothing:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
- If inhaled:** Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.

4.2 Most Important Symptoms and Effects, Acute and Delayed

Symptoms: Eyes: Causes serious eye irritation.
Dermal: Harmful in contact with skin.
Ingestion: Harmful if swallowed.
Inhalation: Harmful if inhaled.

4.3 Immediate Medical Attention and Special Treatment

Note to Physician: Probable mucosal damage may contraindicate the use of gastric lavage.

FOR A MEDICAL EMERGENCY INVOLVING THIS PRODUCT CALL: 1-866-944-8565

Have the product container or label with you when calling a poison control center or doctor, or going for treatment.



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5. FIRE FIGHTING MEASURES

5.1 EXTINGUISHING MEDIA:

Suitable Extinguishing Media: Use medium appropriate to surrounding fire. Dry chemical, carbon dioxide (CO₂), alcohol foam, foam, water spray or fog.

5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE:

Specific Hazards During Firefighting: Oxides of carbon may be released in a fire situation.

5.3 SPECIAL PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIREFIGHTERS

Special Protective Equipment for Firefighters: Self-contained breathing apparatus and full protective gear should be worn in fighting large fires involving chemicals. Use water spray to keep fire exposed containers cool. Keep people away. Isolate fire and deny unnecessary entry.

6. ACCIDENTAL RELEASE MEASURES

6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Personal Precautions: Avoid inhalation of vapors and spray mist and contact with skin and eyes. Ensure adequate ventilation. Wear suitable protective clothing.

6.2 ENVIRONMENTAL PRECAUTIONS

Environmental Precautions: Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters. Do not apply when weather conditions favor drift from target area. This chemical is known to leach through soil into groundwater under certain conditions as a result of use label use. Use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination.

6.3 METHODS AND MATERIALS FOR CONTAINMENT AND CLEAN-UP

Methods for Clean-Up: Avoid breathing mists or vapors. Contain spill and sweep up material and transfer to containers for possible land application according to label use or for proper disposal. Wash spill area with water containing strong detergent, absorb and sweep up as above. Check local, state and federal regulations for proper disposal. Never return spills to original containers for re-use.

7. HANDLING AND STORAGE

7.1 PRECAUTIONS FOR SAFE HANDLING:

Advice on Safe Handling: Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

7.2 CONDITIONS FOR SAFE STORAGE:

Requirements for Storage Areas and Containers: Storage should be under lock and key and secure from access by unauthorized persons and children. Storage should be in a cool, dry area away from heat and ignition sources. Do not stack over two pallets high. Move containers by handles or cases. Do not move containers from one area to another unless they are securely sealed. Keep container tightly sealed when not in use. Keep away from puncture source. Avoid storage near water supplies, food, feed and fertilizer to avoid contamination. Store in original containers only. Unloading, storage and work areas must be clean as possible to prevent contamination if spilled. If concentrate or spray solution is allowed to dry on flammable objects, the chlorate component can act as an oxidizer. Do not contaminate water, food or feed by storage or disposal.



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8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 CONTROL PARAMETERS:

OCCUPATIONAL EXPOSURE LIMITS

U.S. Workplace Exposure Level (ACGIH) TLVs

Components	Type	Value
No listings	TWA	

U.S. Workplace Exposure Level (OSHA) PELs

Components	Type	Value
No listings		

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Specimen
No listings		

8.2 EXPOSURE CONTROLS:

Engineering Measures

Provide adequate general and local exhaust ventilation. Observe Occupational Exposure Limits and minimize the risk of inhalation of vapors and spray mists. Provide eyewash station and safety shower.

Individual Protection Measures:

- Eye / Face Protection: Goggles or shielded safety glasses are recommended.
- Skin Protection: Long-sleeved shirt and long pants. Chemical-resistant gloves made of barrier laminate, nitrile rubber, neoprene rubber, or viton. Shoes plus socks.
- Respiratory Protection: For aerial applications, mixers and loaders handling more than 150 gallon of this products in any single workday must wear: a minimum of a NIOSH-approved filtering face piece respirator with any N, R, or P (TC-84A) filter. Wear respiratory protection during operations where spraying or misting occurs. If respirators are used, a program should be in place to assure compliance with 29 CFR 1910.134, the OSHA Respiratory Protection standard. Wear air supplied respiratory protection if exposure concentrations are unknown.

9. PHYSICAL AND CHEMICAL PROPERTIES

- 9.1 APPEARANCE : Liquid
- ODOR: No data available.
- ODOR THRESHOLD: No data available.
- COLOR: No data available.
- pH: 6.36
- MELTING POINT / FREEZING POINT: 220 – 221 °C (Melting Point) - Fomesafen
- BOILING POINT: No data available
- FLASH POINT: Does not flash.
- FLAMMABILITY (solid, gas): No data available.
- UPPER / LOWER FLAMMABILITY OR EXPLOSIVE LIMITS: No data available.
- VAPOR PRESSURE: < 7.5x10⁻⁷ mm Hg @ 50 °C.
- SOLUBILITY: Soluble.
- PARTITION CO-EFFICIENT, n-OCTANOL / WATER: log Kow 2.9 @ pH 1.
- AUTO-IGNITION TEMPERATURE: No data available.
- DECOMPOSITION TEMPERATURE: No data available.
- VISCOSITY (Kinematic): No data available.
- SPECIFIC GRAVITY (Water = 1): 1.09 g/ml
- DENSITY: 9.10 lbs./gal | 1.09 kg/L

Note: These physical data are typical values based on material tested but may vary from sample to sample. Typical values should not be construed as a guaranteed analysis of any specific lot or as specification items.



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10. STABILITY AND REACTIVITY

10.1 REACTIVITY

Stable

10.2 CHEMICAL STABILITY

Stable under normal temperature conditions

10.3 POSSIBILITY OF HAZARDOUS REACTIONS

No data available. Will not polymerize.

10.4 CONDITIONS TO AVOID

Excessive heat, open flame or other ignition sources.

10.5 INCOMPATIBLE MATERIALS

Strong oxidizing agents: acids and bases.

10.6 HAZARDOUS DECOMPOSITION PRODUCTS

Incomplete combustion may lead to formation of oxides of carbon, oxides of nitrogen and hydrogen chloride.

11 TOXICOLOGICAL INFORMATION

11.3 LIKELY ROUTES OF EXPOSURE

Eye contact. Skin contact. Inhalation. Ingestion.

LC₅₀ (rat): No data available

LD₅₀ Oral (male rat): 1250 - 2,000 mg/kg (Fomesafen)

LD₅₀ Dermal (rat): No data available.

Acute Toxicity Estimates: No data available

Skin Irritation (rabbit): Slight irritant.

Eye Irritation (rabbit): Causes eye irritation.

Specific Target Organ Toxicity: No data available.

Aspiration: No data available

Skin Sensitization (guinea pig): Sensitizer

Carcinogenicity: EPA lists Fomesafen as EPA-C: Possible Human Carcinogen.

Germ Cell Mutagenicity: No data available

Interactive Effects: None known

12 ECOLOGICAL INFORMATION

12.3 ECOTOXICITY

Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water supplies when disposing of equipment wash waters or rinsate. Do not apply when weather conditions favor drift from target area. Fomesafen may leach into groundwater if used in areas where permeable, particularly where the water table is shallow.

Ecotoxicological Data

	Species	Test Results
Fomesafen	Salmo gairdneri	680 mg/l – 96-hour LC ₅₀
	Lepomis macrochirus	6030 mg/l – 96-hour LC ₅₀
	Mallard duck	> 5000 mg/kg LD ₅₀

Drift or runoff may adversely affect non-target plants.

Do not apply directly to water.

Do not contaminate water when disposing of equipment wash water.

Do not apply when weather conditions favor drift from target area.

12.2 PERSISTENCE AND DEGRADABILITY

Biodegradability: No data available.

12.3 BIOACCUMULATIVE POTENTIAL

Bioaccumulation: No data available.

12.4 MOBILITY IN SOIL

No data available.

12.5 OTHER ADVERSE EFFECTS

Assessment: No data available.



13 DISPOSAL CONSIDERATIONS

13.1 WASTE TREATMENT METHODS

PESTICIDE DISPOSAL: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

CONTAINER DISPOSAL: Nonrefillable Container (rigid material; less than 5 gallons): Nonrefillable container. Do not reuse or refill this container. Offer for recycling, if available. Clean container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container one-fourth full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Dispose of empty container in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

Nonrefillable Container (rigid material; 5 gallons up to < 250 gallons): Nonrefillable container. Do not reuse or refill this container. Offer for recycling, if available. Clean container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container one-fourth full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Dispose of empty container in a sanitary landfill or by incineration, or if allowed by State and local authorities, by burning. If burned, stay out of smoke.

Refillable Container (> 250 gallons & Bulk): Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10% full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

14 TRANSPORT INFORMATION

14.3 LAND TRANSPORT

DOT Shipping Description: NOT REGULATED.

U.S. Surface Freight Classification: COMPOUND, TREE OR WEED KILLING, NOI (NMFC 50320, SUB 2: CLASS: 60)

15 REGULATORY INFORMATION

15.1 SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS

NFPA & HMIS Hazard Ratings:

NFPA		HMIS	
2	Health	0	Least
2	Flammability	1	Slight
0	Instability	2	Moderate
		3	High
		4	Severe
		2	Health
		2	Flammability
		0	Reactivity
		C	PPE

SARA Hazard Notification/Reporting

SARA Title III Hazard Category:	Immediate	<u>Y</u>	Fire	<u>N</u>	Sudden Release of Pressure	<u>N</u>
	Delayed	<u>N</u>	Reactive	<u>N</u>		



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Reportable Quantity (RQ) under U.S. CERCLA: Not listed
SARA, Title III, Section 313: Fomesafen [Technical] (CAS: 72178-02-0)
RCRA Waste Code: Not listed
CA Proposition 65: Not applicable.

This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

WARNING

This product contains fomesafen which has been determined to cause tumors in laboratory animals (mice). Risks can be reduced by closely following use directions and precautions and by wearing protective clothing specified on the product label.

Causes substantial but temporary eye injury.

Harmful if swallowed.

Harmful if absorbed through skin.

Harmful if inhaled.

Do not get in eyes or on clothing.

Avoid contact with skin.

Avoid breathing spray or vapors.

Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

16 OTHER INFORMATION

SDS STATUS: New.

PREPARED BY: Registrations and Regulatory Affairs

REVIEWED BY: Environmental Health and Safety

EPA REG. NO.: 34704-1104

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