FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT, CALL DAY OR NIGHT 1-800-561-8273 or CHEMTREC – DAY OR NIGHT 1 800-424-9300

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

1.1 PRODUCT IDENTIFIER:
TRADE NAME: **2,4-D AMINE 600**
1.2 RECOMMENDED USE: GROUP 4 HERBICIDE
1.3 DISTRIBUTED BY:
LOVELAND PRODUCTS CANADA, INC.
789 DONNYBROOK DRIVE • DORCHESTER, ONTARIO N0L 1G5
1.4 24 Hour Emergency Phone: (Chemtrec): 1-800-424-9300 (Toll Free) - **Additional Emergency Phone** 1-800-561-8273
Loveland Technical Service: 1-800-328-4678
U.S. Coast Guard National Response Center: 1-800-424-8802

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Eye Damage/Irritation	Category 1	H318
Acute Toxicity – Oral	Category 4	H302
STOT – RE	Category 2	H373
Aquatic Toxicity – Acute	Category 2	H401
Aquatic Toxicity – Long term	Category 2	H411

2.2 Label elements

Signal word: DANGER

Hazard Statement:
H318 – Causes serious eye damage.
H302 – Harmful if swallowed.
H373 – May cause damage to internal organs through prolonged or repeated exposure.
H401 – Toxic to aquatic life.
H411 – Toxic to aquatic life with long lasting effects.

Precautionary Statement: (Prevention):
P260 – Do not breathe dust/fume/gas/mist/vapours/spray.
P264 – Wash thoroughly after handling.
P270 – Do not eat, drink or smoke when using this product.
P280 – Wear protective gloves / eye protection / face protection.
P102 – Keep out of reach of children.
P273 – Avoid release to the environment.

Precautionary Statement: (Response):
P305+P351+P338: IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing.
P301+P310+P331: IF SWALLOWED: Immediately call a POISON CENTRE or doctor/physician. Do NOT induce vomiting.
P101 – If medical advice is needed, have the product container or label at hand.
P363 – Wash contaminated clothing before reuse.
P391 – Collect spillage.

Precautionary Statement: (Storage):
P401+P233+P234 – Store in a dry place. Keep container tightly closed. Keep only in original container.
P405 – Store locked up.

2.3 Other hazards

None known

3. COMPOSITION, INFORMATION ON INGREDIENTS

3.1 Substances

3.2 Mixtures

Chemical Name:	CAS No.	Concentration [%]
Dimethylamine salt of 2,4-D	2008-39-1	564 g a.e. / L

Ingredients not specifically listed are non-hazardous or are to be considered proprietary or confidential business information

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 centre or doctor for treatment advice.

If swallowed: Call a poison control centre 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 centre or doctor. Do not give anything by mouth to an unconscious person.

If on skin or clothing: Take of contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control centre 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 centre or doctor for further treatment advice.

4.2 Most Important Symptoms and Effects, Acute and Delayed

Symptoms: Eyes: Causes serious eye damage.
Oral: Harmful if swallowed.

4.3 Immediate Medical Attention and Special Treatment

Treatment: Treat symptomatically. Symptoms may be delayed.

FOR A MEDICAL EMERGENCY INVOLVING THIS PRODUCT CALL: 1-800-561-8273

Take container, label or product name with you when seeking medical attention.

NOTES TO PHYSICIAN: If in eyes, specialized ophthalmologic attention may be necessary. If swallowed probable mucosal damage may contraindicate gastric lavage. There is no specific antidote; treat symptomatically.

5. FIRE FIGHTING MEASURES

5.1 EXTINGUISHING MEDIA:

Suitable Extinguishing Media: Use medium appropriate to surrounding fire. Dry chemical, carbon dioxide (CO_2), alcohol foam, foam, water spray or fog.

5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE:

Specific Hazards During Firefighting: Ammonia, oxides of nitrogen, chlorine-containing compounds and other unknown materials may be formed 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 vapours and spray mist and contact with skin and eyes. Do not inhale fumes. 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 highwater mark. Do not contaminate water when disposing of equipment washwaters or rinsate.

6.3 METHODS AND MATERIALS FOR CONTAINMENT AND CLEAN-UP

Methods for Clean-Up: Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. After removal flush contaminated area thoroughly with water.
Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to Remove residual contamination.
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: Do not store below 25 °F/-3.9 °C. If frozen, warm to 70 °F/21.1 °C and redissolve before using by rolling or shaking the container. Store in a safe manner. Store in original container only. Store in a cool, dry place. Keep container tightly closed when not in use. Do not contaminate water, food or feed by storage or disposal.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 CONTROL PARAMETERS:

OCCUPATIONAL EXPOSURE LIMITS

U.S. Workplace Exposure Level (ACGIH) TLVs

Components	Type	Value
2,4-D Acid	TLV	10 mg/m^3
Dimethylamine	TLV	9.2 mg/m^3

U.S. Workplace Exposure Level (OSHA) PELs

Components	Type	Value
2,4-D Acid	TLV	10 mg/m^3
Dimethylamine	TLV	18 mg/m^3

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 vapours 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, such as polyethylene or polyvinylchloride. Shoes plus socks.

Respiratory Protection: In case of inadequate ventilation or risk of inhalation of mists or vapors, use suitable respiratory equipment such as MSHA/NIOSH TC-84A with NIOSH equipped N, R, or P class filter media. 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: Fishy, amine-like.
ODOR THRESHOLD: No data available.
COLOR: Amber to nearly black.
pH: 5.3
MELTING POINT / FREEZING POINT: No data available
BOILING POINT: No data available
FLASH POINT: Does not flash.
FLAMMABILILITY (solid, gas): No data available.
UPPER / LOWER FLAMMABILITY OR EXPLOSIVE LIMITS: No data available.
VAPOR PRESSURE: 0.00141 mmHg @ 20 °C.
SOLUBILITY: Miscible.
PARTITION CO-EFFICIENT, n-OCTANOL / WATER: No data available.
AUTO-IGNITION TEMPERATURE: No data available.
DECOMPOSITION TEMPERATURE: No data available.
VISCOSITY: (kinematic): No data available
SPECIFIC GRAVITY (Water = 1): 1.21 g/ml
BULK DENSITY: 1.21 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.

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 and moisture.

10.5 INCOMPATIBILE MATERIALS
Strong acids.

10.6 HAZARDOUS DECOMPOSITION PRODUCTS
Ammonia, oxides of nitrogen, chlorine-containing compounds and other unknown hazardous material may be formed in a fire situation. Oxides of carbon and/or other asphyxiants may be formed from incomplete combustion.

11 TOXICOLOGICAL INFORMATION

11.3 LIKELY ROUTES OF EXPOSURE

Eye contact. Harmful if swallowed.
LC_{50} (rat): >5.28 mg/L (4 HR)
LD_{50} Oral (rat): 1,670 mg/kg
LD_{50} Dermal (rat): > 2,000 mg/kg
Acute Toxicity Estimates: No data available
Skin Irritation (rabbit): not an irritant.
Eye Irritation (rabbit): Corrosive; causes irreversible eye damage.
Specific Target Organ Toxicity: Skin, CNS, liver, kidneys.
Aspiration: No data available
Skin Sensitization (guinea pig): Not a sensitizer
Carcinogenicity: IARC Group 2B (limited evidence for carcinogenicity in humans).
Germ Cell Mutagenicity: No data available
Interactive Effects: None known

12 ECOLOGICAL INFORMATION

12.3 ECOTOXICITY

The product may be toxic to fish and aquatic invertebrates. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment. Information below is based on the technical ingredient 2,4-D acid.

Ecotoxicological Data

	Species	Test Results
2,4-D Acid	Rainbow trout	245 mg/L – 96-hour LC_{50}
	Bluegill	524 mg/L – 96-hour LC_{50}
	Fathead minnow	344 mg/L – 96-hour LC_{50}
	Pink shrimp	181 mg/L – 96-hour LC_{50}
	Daphnia magna	184 mg/L – 96-hour LC_{50}
	Tidewater silverside	469 mg/L –96-hour LC_{50}
	Eastern oyster	136 mg/L – 48-hour EC_{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: Biochemical oxygen demand is 0.72 for 5, 10 and 20 days. Chemical oxygen demand is 0.72. Under aerobic soil conditions the half-life is 4 – 23 days. Under aerobic aquatic conditions, the half-life is 0.5 – 11 days.

12.3 BIOACCUMULATIVE POTENTIAL

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or log Pow < 3).

12.4 MOBILITY IN SOIL

High (50 < Koc < 150). Soil organic carbon/water partition coefficient (Koc) is 72-136.

12.5 OTHER ADVERSE EFFECTS

Assessment: No data available.

13 DISPOSAL CONSIDERATIONS

13.1 WASTE TREATMENT METHODS

Do not reuse containers for any purpose. Refillable Container: For disposal, the container may be returned to the point of purchase (dealer/distributor). It must be refilled by the dealer/distributor with the same product. Container is recyclable, and is to be disposed of at a container collection site. Contact your local dealer/distributor for the location of the nearest collection site. Before taking container to the collection site: Triple or pressure-rinse the empty container, adding the rinsate to the spray tank. Make the empty container unsuitable for further use. If there is no container collection site in your area, dispose of the container in accordance with provincial requirements. For information on disposal of unused, unwanted product, contact the manufacturer or the provincial regulatory agency. Do not contaminate water, food, or feed by storage or disposal.

14 TRANSPORT INFORMATION

14.3 LAND TRANSPORT

TDG Shipping Description: NOT REGULATED (Packages will bear USDOT markings and labels)
DOT Shipping Description: Less than 16 gallons: NOT REGULATED BY DOT
DOT Shipping Description: Greater than 16 gallons: RQ UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., 9, III (2,4-D), ERG GUIDE 171
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	
3	Health	0 Least	3	Health
0	Flammability	1 Slight	0	Flammability
0	Instability	2 Moderate	0	Reactivity
		3 High	H	PPE
		4 Severe		

SARA Hazard Notification/Reporting
SARA Title III Hazard Category:

Immediate	Y	Fire	N	Sudden Release of Pressure	N
Delayed	N	Reactive	N		

Reportable Quantity (RQ) under U.S. CERCLA: 2,4-D Acid (CAS: 94-75-7) 100 pounds.
SARA, Title III, Section 313: 2,4-D Acid (CAS: 94-75-7) 58.9% acid equivalent
RCRA Waste Code: U240; D016
CA Proposition 65: Not applicable.
WHMIS [Canada]: Pest control products are not controlled under WHMIS. Classified D2B

Read the approved label, authorized under the Pest Control Products Act, prior to handling the pest control product.

This chemical is a pest control product registered by Health Canada Pest Management Regulatory Agency and is subject to certain labeling requirements under the Pest Control Products Act. These requirements differ from the classification criteria and hazard information required for GHS-consistent safety data sheets. Following is the hazard information required on the pest control product label.

WARNING POISON
SKIN AND EYE IRRITANT

16 OTHER INFORMATION

SDS STATUS: Sections 1, 2 and 16 revised.

PREPARED BY: Product Stewardship and Regulatory Affairs **REVIEWED BY:** Safety, Health and Environment

PEST CONTROL PRODUCTS ACT REG. NO.: 5931

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