SECTION 1: Product and Company Identification

1.1. Product identifier

Trade name : Montana 4F Insecticide
CAS No. : 138261-41-3 (Active Ingredient)
EPA Registration Number : 83100-21-83979

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

Use of the substance/preparation : Insecticide

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Rotam North America, Inc.
4900 Koger Blvd. Suite# 140
Greensboro, NC 27407
Phone: 1-(866) 927-6826 (toll free); 1-(336) 346-8802
msds@rotam.com

1.4. Emergency telephone number

Emergency number : 1-800-858-7378 (NPIC)
1-800-222-1222 (Poison Control Center)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification

Hazard Class	Category	Hazard Statement
Acute Toxicity - Oral	4	H302
Aquatic Toxicity Acute	1	H400
Aquatic Toxicity Chronic	1	H410

If applicable, full text of H-phrases appear in “Label elements” below

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

GHS Labeling Elements

Hazard pictograms (CLP) :

GHS09

GHS07

Signal word : WARNING

Hazard statements	:	H302 – Harmful if swallowed H410 – Very toxic to aquatic life with long lasting effects
Precautionary statements (prevention)	:	P264 – Wash thoroughly after handling P270 – Do not eat, drink or smoke when using this product P273 – Avoid release to the environment
Precautionary statements (response)	:	P301+P312 – IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell P330 – Rinse mouth P391 – Collect spillage
Precautionary statements (disposal)		P501 – Dispose of contents/container in accordance with federal, state and local regulations.

2.3. Other hazards/labeling information

Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.

SECTION 3: Composition/information on ingredients

Name	Product identifier	%
Imidacloprid	(CAS No.) 138261-41-3	40.6
Other Ingredients	NA	59.4

SECTION 4: First aid measures

4.1. Description of first aid measures

IF INHALED	:	Move 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 treatment advice.
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 irritation develops or persists.
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 poison control center or doctor for treatment advice if irritation develops or persists.
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 by a poison control center or doctor. Do not give anything to an unconscious person
First-aid measures – general	:	Have the product container or label with you when calling a poison control center or doctor, or going for treatment. See Label for Additional Precautions and Directions for Use.
Notes to Physician	:	There is no specific antidote. Treat symptomatically

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	:	Water based material – not flammable. Cool fire-exposed containers with water to prevent pressure build up.
Unsuitable extinguishing media	:	High volume water jet. (Water contamination risk from runoff)

5.2. Special hazards arising from the substance or mixture

Fire hazard : Hazardous decomposition products may be released during prolonged heating including smoke, carbon monoxide and dioxide, nitrogen oxides (NOx), and hydrogen chloride.

Explosion hazard : Product is not explosive.

Reactivity : The product is stable at normal handling and storage conditions.

5.3. Advice for firefighters

Firefighting instructions : In the event of fire, wear self-contained breathing apparatus. Keep out of smoke. Fight fire from upwind position. Cool closed containers exposed to fire with water spray. Dike area to prevent runoff and contamination of water sources. Equipment or materials involved in pesticide fires may become contaminated.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Wear appropriate personal protective equipment (PPE) : coveralls, gloves, boots. Absorb spills on spill pillows or other suitable absorbing material (e.g. sand, soil or diatomaceous earth) and place in a sealed container for disposal. Clean contaminated floors and objects thoroughly, observing environmental regulations. Prevent material from entering sewers, waterways, or low areas. Never return spills in original containers for re-use. Dispose of in accordance with local regulations.

6.1.1. For non-emergency personnel

Protective equipment : Wear appropriate personal protective equipment (PPE) : coveralls, gloves, boots.

Emergency procedures : Avoid contact with spilled material. Do not allow product to enter streams, sewers or other waterways.

6.1.2. For emergency responders

Protective equipment : Wear appropriate personal protective equipment (PPE) : coveralls, gloves, boots.

6.2. Environmental precautions

Do not apply directly to water, 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.

This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds if bees are foraging the treatment area. This product is toxic to wildlife and highly toxic to aquatic invertebrates.

This chemical demonstrates the properties and characteristics associated with chemicals detected in ground water. The 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 material for containment and cleaning up

Methods for cleaning up : Absorb spills on spill pillows or other suitable absorbing material (e.g. sand, soil or diatomaceous earth) and place in a sealed container for disposal. Clean contaminated floors and objects thoroughly, observing environmental regulations.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove personal protective equipment immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing. Remove clothing/PPE immediately if material gets inside. Wash thoroughly and put on clean clothing. Do not allow children or pets to enter the treated area until it has dried.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in original container. Store in a cool, dry place. Do not contaminate water, other pesticides, fertilizer, food or feed in storage. Keep out of the reach of children.

SECTION 8: Exposure controls/personal protection

8.1. Personal protective equipment

Train employees in safe use of the product. Follow all label instructions. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and warm/tepid water. Keep and wash PPE separately from other laundry.

Applicators and other handlers must wear:

> Long sleeved shirt and long pants Chemical-resistant gloves, (such as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, natural rubber, polyethylene, polyvinylchloride (PVC) or viton), all greater than or equal to 14 mils. Shoes plus socks.

PPE required for early entry to treated areas that involves contact with anything that has been treated, such as plants, soil, or water, is:

> Coveralls. Chemical-resistant gloves, ((such as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, natural rubber, polyethylene, polyvinylchloride (PVC) or viton), all greater than or equal to 14 mils. Shoes plus socks

8.2. Exposure controls

Ensure adequate ventilation, especially in confined areas.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Color	:	White homogenous, opaque
Odor	:	Characteristic
Odor threshold	:	Not applicable
pH	:	6.62 at 25 °C
Relative evaporation rate (butylacetate=1)	:	No data available

Melting point	:	Not applicable
Freezing point	:	No data available
Boiling point	:	No data available
Flash point	:	>212 °F (100 °C)
Self ignition temperature	:	No data available
Decomposition temperature	:	No data available
Flammability (solid, gas)	:	Not flammable
Vapor pressure	:	No data available
Relative vapor density at 20 °C	:	No data available
Relative density	:	No data available
Density	:	1.182 g/cm3 at 20 °C
Solubility	:	Disperses
Log Pow	:	No data available
Log Kow	:	No data available
Viscosity, kinematic	:	Not applicable
Viscosity, dynamic	:	Not applicable
Explosive properties	:	Non explosive
Oxidizing properties	:	Non oxidizing
Explosive limits	:	No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is stable at normal handling and storage conditions.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

Protect from heat.

10.5. Incompatible materials

Strong acids, strong bases and oxidizing agents.

10.6. Hazardous decomposition products

Thermal decomposition products include:
Carbon monoxide, carbon dioxide
Nitrogen oxides (NOx)
Hydrogen chloride (HCl)

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Montana 4F Insecticide	
LD50 oral rat	300<LD50<1000 mg/kg
LD50 dermal rat	> 4000 mg/kg
LC50 inhalation rat (mg/l)	> 5.24 mg/l/4h
Skin corrosion/irritation	Not irritating to skin
Serious eye damage/irritation	Not irritating to eyes
Respiratory or skin sensitisation	Not a sensitizer

Imidacloprid (sub-chronic, chronic)		
Sub-chronic toxicity	:	In a 3-week dermal toxicity study, rabbits treated with imidacloprid showed no local or systemic effects at levels up to and including 1000 mg/Kg, the limit dose. In a 4-week inhalation study, rats exposed to high concentrations of imidacloprid exhibited decreased body weight gains and changes in clinical chemistries and organ weights.
Chronic toxicity	:	In chronic dietary studies in rats and dogs exposed to imidacloprid, the target organs were the thyroid and/or liver.
Carcinogenicity	:	In oncongenicity studies in rats and mice, imidacloprid was not considered carcinogenic in either species.
Reproductive & Developmental toxicity	:	REPRODUCTION: In a two-generation reproduction study in rats, imidacloprid was not a primary reproductive toxicant. Offspring exhibited reduced body weights at the high dose and in conjunction with maternal toxicity. DEVELOPMENTAL TOXICITY: In developmental toxicity studies in rats and rabbits, there was no evidence of an embryonic or teratogenic potential for imidacloprid. In both species, developmental effects were observed only at high doses and in conjunction with maternal toxicity.
Neurotoxicity	:	In acute and subchronic neurotoxicity screening studies in rats, imidacloprid produced slight neurobehavioral effects in each study at the highest dose tested. There were no correlating morphological changes observed in the neural tissues.
Mutagenicity	:	The imidacloprid mutagenicity studies, taken collectively, demonstrate that the active ingredient is not genotoxic or mutagenic.

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity (Acute)

Bees LC50/EC50 (48 hour):	0.078 ug/bee (contact)
Invertebrates (Daphnia) LC50/EC50 (48 hour):	85mg/L
Invertebrates (Mysid) LC50/EC50 (96 hour):	0.038 ppm
Fish (trout) LC50/EC50 (96 hour):	211 mg/L
Birds (Bobwhite Quail LC50/EC50):	152 mg/kg
Birds (Japanese Quail) LC50/EC50):	31 mg/kg

Ecotoxicological Summary

Highly toxic to aquatic invertebrates. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water.

Highly toxic to bees. Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treatment area.

Ecological Information
This chemical demonstrates the properties and characteristics associated with chemicals detected in ground water. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in ground water contamination.

12.2. Persistence and degradability

Hydrolysis half-life of imidacloprid is greater than 30 days at pH 7 and 25 deg C. The aqueous photolysis half-life is less than 3 hours. The soil surface photolysis of imidacloprid has a half-life of 39 days, and in soil, the half-life ranged from 26-229 days.

12.3. Bioaccumulative potential

Imidacloprid	
Log Kow	0.57 (pH 7, 25°C)

12.4. Mobility in soil

The chemical is moderately soluble, and has moderate binding affinity to organic materials in soils. However, there is a potential for the compound to move through sensitive soil types including porous, gravelly, or cobbly soils, depending on irrigation practices

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal : Open dumping is prohibited. Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance.

Container disposal : Completely empty container into application equipment, then dispose of empty container in a sanitary landfill, by incineration or by other procedures approved by state/provincial and local authorities. If burned, stay out of smoke. Consult label for additional container disposal information.

SECTION 14: Transport information

Not Regulated by US DOT or Canadian TDG for ground shipment

Ground transport

Not Regulated by US DOT
Not Regulated by Canadian TDG

Transport by sea (IMDG)

UN 3082; ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Imidacloprid); 9; III; Marine Pollutant

Air transport (IATA)

UN 3082; ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Imidacloprid); 9; III

Additional Air, Sea and International Transportation Information

UN-No.	:	3082
Proper Shipping Name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Imidacloprid)
Transport document description	:	UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Imidacloprid), 9, III
Class (UN)	:	9
Hazard labels (UN)	:	9

Packing group (UN)	:	III
Marine Pollutant (Y/N)	:	Y
Dangerous for the environment	:	

SECTION 15: Regulatory information

FIFRA Information:
This chemical is a pesticide product registered by the 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, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

Signal word	:	**CAUTION**
Hazard statements	:	Harmful if swallowed or absorbed through skin.
Precautionary statements	:	Avoid contact with skin, eyes or clothing. Wear long--sleeved shirt and long pants, socks, shoes, and chemical--resistant gloves (such as Natural Rubber, Select Category A).

SARA 313 Regulated Chemical(s): None

Title III hazard classification:
Acute Health Hazard: Yes
Chronic Health Hazard: No
Fire: No
Reactivity/Physical hazard: No
Pressure: No

Canadian Regulatory Information:
This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR. WHMIS Classification: D2B – Toxic

SECTION 16: Other information

NFPA: Health: 1; Flammability: 0; Reactivity: 0; Specific:
HMIS: Health: 1; Flammability: 0; Physical Hazard: 0; PPE: E
US-GHS

***Disclaimer**: The information provided by Rotam North America, Inc. contained herein is given in good faith and correct to the best of our knowledge. However, the information given is designed only as guidance for safe handling, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification.*