SAFETY DATA SHEET

According to UK REACH and COSHH Regulations, and their amendments

LADIVA™

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	26.06.2025	800080100905	Date of first issue: 26.06.2025

Corteva Agriscience™ encourages you and expects you to read and understand the entire SDS as there is important information throughout the document. This SDS provides users with information relating to the protection of human health and safety at the workplace, protection of the environment and supports emergency response. Product users and applicators should primarily refer to the product label attached to or accompanying the product container. This Safety Data Sheet adheres to the standards and regulatory requirements of Great Britain and may not meet the regulatory requirements in other countries.

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name : LADIVA™

Unique Formula Identifier (UFI) : 264C-H02R-F00Y-WXWE

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

Use of the Substance/Mixture : Plant Protection Product
Herbicide

1.3 Details of the supplier of the safety data sheet

COMPANY IDENTIFICATION
Manufacturer/importer
Corteva Agriscience UK Ltd
Melbourn Science Park - Cambridge Road - Unit H4, Building H
Melbourn Cambridgeshire - SG8 6HB
UNITED KINGDOM

Customer Information Number : +44 8006 89 8899
E-mail address : SDS@corteva.com

1.4 Emergency telephone number

+44 161 88 41235

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567)

Skin irritation, Category 2	H315: Causes skin irritation.
Serious eye damage, Category 1	H318: Causes serious eye damage.
Specific target organ toxicity - single exposure, Category 3, Respiratory system	H335: May cause respiratory irritation.
Short-term (acute) aquatic hazard, Category 1	H400: Very toxic to aquatic life.
Long-term (chronic) aquatic hazard, Category 1	H410: Very toxic to aquatic life with long lasting effects.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567)

Hazard pictograms :

Signal word : Danger

Hazard statements :

H315	Causes skin irritation.
H318	Causes serious eye damage.
H335	May cause respiratory irritation.
H410	Very toxic to aquatic life with long lasting effects.

Precautionary statements :

Prevention:

P261	Avoid breathing mist/vapours/spray.
P280	Wear protective gloves/ eye protection/ face protection.

Response:

P302 + P352	IF ON SKIN: Wash with plenty of water.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305 + P351 + P338 + P310	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.

Disposal:

P501	Dispose of contents/container to a licensed hazardous-waste disposal contractor or collection site except for empty clean containers which can be disposed of as non-hazardous waste.

Hazardous components which must be listed on the label:

N,N-Dimethyldecan-1-amide
Amides, coco, N-[3-(dimethylamino)propyl]
Aminopyralid

Additional Labelling

EUH401 To avoid risks to human health and the environment, comply with the instructions for use.

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
Picloram	1918-02-1 217-636-1	Aquatic Acute 1; H400 Aquatic Chronic 1; H410 _____ M-Factor (Acute aquatic toxicity): 1 M-Factor (Chronic aquatic toxicity): 10	5.14
Aminopyralid	150114-71-9	Eye Dam. 1; H318 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 _____ M-Factor (Acute aquatic toxicity): 1 M-Factor (Chronic aquatic toxicity): 1	3.38
Halauxifen-methyl	943831-98-9	Aquatic Acute 1; H400 Aquatic Chronic 1; H410 _____	1.05

		M-Factor (Acute aquatic toxicity): 10,000 M-Factor (Chronic aquatic toxicity): 10,000	
N,N-Dimethyldecan-1-amide	14433-76-2 238-405-1 01-2119485027-36	Skin Irrit. 2; H315 Eye Irrit. 2; H319 STOT SE 3; H335 (Respiratory system) Aquatic Chronic 3; H412	>= 40 - < 50
Amides, coco, N-[3-(dimethylamino)propyl]	68140-01-2 268-771-8 01-2119978216-29	Acute Tox. 4; H302 Skin Corr. 1B; H314 Eye Dam. 1; H318 Aquatic Acute 1; H400 Aquatic Chronic 2; H411 _____ M-Factor (Acute aquatic toxicity): 1	>= 10 - < 20
Substances with a workplace exposure limit :			
Dipropylene glycol monomethyl ether	34590-94-8 252-104-2		>= 3 - < 10
Propylene glycol	57-55-6 200-338-0 01-2119456809-23		>= 1 - < 3

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

Protection of first-aiders : First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection).
If potential for exposure exists refer to Section 8 for specific personal protective equipment.

If inhaled : Move person to fresh air; if effects occur, consult a physician.

In case of skin contact : Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing. Seek medical attention if symptoms occur or irritation persists. Wash clothing before reuse.
Suitable emergency safety shower facility should be immediately available.

In case of eye contact	:	Wash immediately and continuously with flowing water for at least 30 minutes. Remove contact lenses after the first 5 minutes and continue washing. Obtain prompt medical consultation, preferably from an ophthalmologist. Suitable emergency eye wash facility should be immediately available.
If swallowed	:	No emergency medical treatment necessary.

4.2 Most important symptoms and effects, both acute and delayed

None known.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment	:	Chemical eye burns may require extended irrigation. Obtain prompt consultation, preferably from an ophthalmologist. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	:	Water spray Alcohol-resistant foam
Unsuitable extinguishing media	:	None known.

5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting	:	Exposure to combustion products may be a hazard to health. Vapours may form explosive mixtures with air. Do not allow run-off from fire fighting to enter drains or water courses. Flash back possible over considerable distance. Exposure to combustion products may be a hazard to health. Do not allow run-off from fire fighting to enter drains or water courses.
Hazardous combustion products	:	Carbon oxides Nitrogen oxides (NOx)

5.3 Advice for firefighters

Special protective equipment for firefighters	:	Wear self-contained breathing apparatus for firefighting if necessary. Use personal protective equipment.
Specific extinguishing methods	:	Remove undamaged containers from fire area if it is safe to do so. Evacuate area. Use extinguishing measures that are appropriate to local cir-

cumstances and the surrounding environment.
Use water spray to cool unopened containers.

Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Use personal protective equipment.
Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

6.2 Environmental precautions

Environmental precautions : If the product contaminates rivers and lakes or drains inform respective authorities.
Discharge into the environment must be avoided.
Prevent further leakage or spillage if safe to do so.
Prevent spreading over a wide area (e.g. by containment or oil barriers).
Retain and dispose of contaminated wash water.
Local authorities should be advised if significant spillages cannot be contained.
Prevent from entering into soil, ditches, sewers,underwater.
See Section 12, Ecological Information.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Clean up remaining materials from spill with suitable absorbant.
Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in.
For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped,
Recovered material should be stored in a vented container.
The vent must prevent the ingress of water as further reaction with spilled materials can take place which could lead to overpressurization of the container.
Keep in suitable, closed containers for disposal.
Wipe up with absorbent material (e.g. cloth, fleece).
Neutralize with chalk, alkali solution or ammonia.
Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
See Section 13, Disposal Considerations, for additional information.

6.4 Reference to other sections

See sections: 7, 8, 11, 12 and 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Local/Total ventilation : Use with local exhaust ventilation.

Advice on safe handling : To avoid spills during handling keep bottle on a metal tray.
Avoid formation of aerosol.
Provide sufficient air exchange and/or exhaust in work rooms.
Do not breathe vapours/dust.
Do not smoke.
Handle in accordance with good industrial hygiene and safety practice.
Avoid exposure - obtain special instructions before use.
Smoking, eating and drinking should be prohibited in the application area.
Do not get on skin or clothing.
Do not breathe vapours or spray mist.
Do not get in eyes.
Avoid contact with skin and eyes.
Keep container tightly closed.
Take care to prevent spills, waste and minimize release to the environment.
Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Store in a closed container. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Keep in properly labelled containers. Store in accordance with the particular national regulations.

Advice on common storage : Do not store near acids.
Strong oxidizing agents

Packaging material : Unsuitable material: None known.

7.3 Specific end use(s)

Specific use(s) : Plant protection products subject to Regulation (EC) No 1107/2009.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
Dipropylene glycol monomethyl ether	34590-94-8	Long-term exposure limit (8-hour	50 ppm 308 mg/m3	GB EH40

		TWA reference period)		
	Further information: Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			
		Limit Value - eight hours	50 ppm 308 mg/m3	2000/39/EC
	Further information: Identifies the possibility of significant uptake through the skin, Indicative			
		8-hr TWA	10 ppm	Corteva OEL
		Short term exposure limit	30 ppm	Corteva OEL
Picloram	1918-02-1	Long-term exposure limit (8-hour TWA reference period)	10 mg/m3	GB EH40
		Short-term exposure limit (15-minute reference period)	20 mg/m3	GB EH40
Aminopyralid	150114-71-9	8-hr TWA (Inhalable fraction)	10 mg/m3	Corteva OEL
		8-hr TWA (Respirable fraction)	3 mg/m3	Corteva OEL
Propylene glycol	57-55-6	Long-term exposure limit (8-hour TWA reference period) (Total vapour and particles)	150 ppm 474 mg/m3	GB EH40
		Long-term exposure limit (8-hour TWA reference period) (particles)	10 mg/m3	GB EH40

Derived No Effect Level (DNEL)

Substance name	End Use	Exposure routes	Potential health effects	Value
Dipropylene glycol monomethyl ether	Workers	Inhalation	Long-term systemic effects	310 mg/m3
	Workers	Skin contact	Long-term systemic effects	65 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	37.2 mg/m3
	Consumers	Skin contact	Long-term systemic effects	15 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	1.67 mg/kg bw/day
Propylene glycol	Workers	Skin contact	Acute systemic effects	
	Remarks:No data available			
	Workers	Inhalation	Acute systemic ef-	

			fects	
	Remarks:No data available			
	Workers	Skin contact	Acute local effects	
	Remarks:No data available			
	Workers	Inhalation	Acute local effects	
	Remarks:No data available			
	Workers	Skin contact	Long-term systemic effects	
	Remarks:No data available			
	Workers	Inhalation	Long-term systemic effects	168 mg/m3
	Workers	Skin contact	Long-term local effects	
	Remarks:No data available			
	Workers	Inhalation	Long-term local effects	10 mg/m3
	Consumers	Skin contact	Acute systemic effects	
	Remarks:No data available			
	Consumers	Inhalation	Acute systemic effects	
	Remarks:No data available			
	Consumers	Skin contact	Acute local effects	
	Remarks:No data available			
	Consumers	Inhalation	Acute local effects	
	Remarks:No data available			
	Consumers	Skin contact	Long-term systemic effects	
	Remarks:No data available			
	Consumers	Inhalation	Long-term systemic effects	50 mg/m3
	Consumers	Skin contact	Long-term local effects	
	Remarks:No data available			
	Consumers	Inhalation	Long-term local effects	10 mg/m3

Predicted No Effect Concentration (PNEC)

Substance name	Environmental Compartment	Value
Dipropylene glycol monomethyl ether	Fresh water	19 mg/l
	Marine sediment	1.9 mg/l
	Intermittent use/release	190 mg/l
	Sewage treatment plant	4168 mg/l
	Fresh water sediment	70.2 mg/kg
	Marine sediment	7.02 mg/kg
	Soil	2.74 mg/kg
Propylene glycol	Fresh water	260 mg/l
	Marine water	26 mg/l
	Intermittent use/release	183 mg/l
	Sewage treatment plant	20000 mg/l
	Fresh water sediment	572 mg/kg dry

		weight (d.w.)
	Marine sediment	57.2 mg/kg dry weight (d.w.)
	Soil	50 mg/kg dry weight (d.w.)

8.2 Exposure controls

Engineering measures

Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations.
Local exhaust ventilation may be necessary for some operations.

Personal protective equipment

Eye/face protection : Use chemical goggles.

Hand protection

Remarks : Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Butyl rubber. Chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Examples of acceptable glove barrier materials include: Natural rubber ("latex"). Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyvinyl chloride ("PVC" or "vinyl"). Viton. NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

Skin and body protection : Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task.

Respiratory protection : Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process.
For emergency conditions, use an approved positive-pressure self-contained breathing apparatus.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	:	liquid
Colour	:	brown
Odour	:	mild
Odour Threshold	:	No data available
pH	:	3.36 (22.2 °C)

		Concentration: 1.04 % No data available
Melting point/ range	:	Not applicable
Boiling point/boiling range	:	No data available
Flash point	:	> 100 °C Method: Pensky-Martens Closed Cup ASTM D 93
Flammability	:	The product is not flammable.
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapour pressure	:	No data available
Density	:	0.946 g/mL (20 °C) Method: OECD Test Guideline 109
Solubility(ies)		
Water solubility	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Viscosity		
Viscosity, dynamic	:	28.8 mPa.s (20 °C) Method: OECD Test Guideline 114 13.7 mPa.s (40 °C) Method: OECD Test Guideline 114
Explosive properties	:	Method: EC Method A.14 Not explosive
Oxidizing properties	:	Method: EC Method A.21 no oxidising properties

9.2 Other information

Surface tension	:	23.5 mN/m, EC Method A5
Self-ignition	:	239 °C Method: EC Method A15

SECTION 10: Stability and reactivity

10.1 Reactivity

Not classified as a reactivity hazard.

10.2 Chemical stability

No decomposition if stored and applied as directed.
Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous reactions : Stable under recommended storage conditions.
No hazards to be specially mentioned.
None known.

10.4 Conditions to avoid

Conditions to avoid : None known.

10.5 Incompatible materials

Materials to avoid : Strong acids
Strong bases

10.6 Hazardous decomposition products

Carbon oxides
Nitrogen oxides (NOx)

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Components:

Picloram:

Acute oral toxicity : LD50 (Rat, male): > 5,000 mg/kg
Remarks: Signs and symptoms of excessive exposure may include:
Convulsions.

LD50 (Rat, female): 4,012 mg/kg

Acute inhalation toxicity : LC50 (Rat, male and female): > 0.035 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity

Symptoms: No deaths occurred at this concentration.
Remarks: Maximum attainable concentration.

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

Aminopyralid:

Acute oral toxicity : LD50 (Rat, male and female): > 5,000 mg/kg

Acute inhalation toxicity : Remarks: No adverse effects are anticipated from single exposure to dust.
Based on the available data, narcotic effects were not observed.
Based on the available data, respiratory irritation was not observed.

LC50 (Rat, male and female): > 5.5 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rat, male and female): > 5,000 mg/kg

Halauxifen-methyl:

Acute oral toxicity : LD50 (Rat, female): > 5,000 mg/kg
Method: OECD Test Guideline 423
Symptoms: No deaths occurred at this concentration.

Acute inhalation toxicity : LC50 (Rat, male and female): > 5.39 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
Symptoms: No deaths occurred at this concentration.
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rat, male and female): > 5,000 mg/kg
Method: OECD Test Guideline 402
Symptoms: No deaths occurred at this concentration.

N,N-Dimethyldecan-1-amide:

Acute oral toxicity : LD50 (Rat, male and female): > 2,000 - 5,000 mg/kg
Symptoms: No deaths occurred at this concentration.
Assessment: The substance or mixture has no acute oral toxicity

Acute inhalation toxicity : LC50 (Rat, male and female): > 3.551 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: Maximum attainable concentration.

Acute dermal toxicity : LD50 (Rat): > 5,000 mg/kg

Amides, coco, N-[3-(dimethylamino)propyl]:

Acute oral toxicity : LD50 (Rat): > 1,000 mg/kg
Remarks: Based on information for a similar material:

Dipropylene glycol monomethyl ether:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Acute inhalation toxicity : LC50 (Rat): 3.35 mg/l
Exposure time: 7 h
Test atmosphere: vapour
Symptoms: No deaths occurred at this concentration.
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rabbit): 9,510 mg/kg

Propylene glycol:

Acute oral toxicity : LD50 (Rat): > 20,000 mg/kg

Acute inhalation toxicity : LC50 (Rabbit): 317.042 mg/l
Exposure time: 2 h
Test atmosphere: dust/mist
Symptoms: No deaths occurred at this concentration.
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: Mist may cause irritation of upper respiratory tract (nose and throat).

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg
Symptoms: No deaths occurred at this concentration.
Assessment: The substance or mixture has no acute dermal toxicity

Skin corrosion/irritation

Product:

Species : Rabbit
Method : OECD Test Guideline 404
Result : Skin irritation
Remarks : Information source: Internal study report

Components:

Aminopyralid:

Result : No skin irritation

Halauxifen-methyl:

Species	:	Rabbit
Exposure time	:	4 h
Method	:	OECD Test Guideline 404
Result	:	No skin irritation

N,N-Dimethyldecan-1-amide:

Species	:	Rabbit
Result	:	Skin irritation

Amides, coco, N-[3-(dimethylamino)propyl]:

Result	:	Causes burns.

Dipropylene glycol monomethyl ether:

Species	:	Rabbit
Result	:	No skin irritation

Propylene glycol:

Species	:	Rabbit
Result	:	No skin irritation

Serious eye damage/eye irritation

Components:

Aminopyralid:

Result	:	Corrosive

Halauxifen-methyl:

Species	:	Rabbit
Method	:	OECD Test Guideline 405
Result	:	No eye irritation

N,N-Dimethyldecan-1-amide:

Species	:	Rabbit
Result	:	Eye irritation

Amides, coco, N-[3-(dimethylamino)propyl]:

Result	:	Corrosive

Dipropylene glycol monomethyl ether:

Species	:	Rabbit
Result	:	No eye irritation

Propylene glycol:

Species	:	Rabbit

Result : No eye irritation

Respiratory or skin sensitisation

Product:

Test Type : Local lymph node assay
Species : Mouse
Method : OECD Test Guideline 429
Remarks : Information source: Internal study report

Components:

Picloram:

Species : Guinea pig
Result : Does not cause skin sensitisation.

Aminopyralid:

Species : Guinea pig
Result : Does not cause skin sensitisation.

Halauxifen-methyl:

Test Type : Local lymph node assay (LLNA)
Species : Mouse
Method : OECD Test Guideline 429
Result : Does not cause skin sensitisation.

N,N-Dimethyldecan-1-amide:

Test Type : Buehler Test
Species : Guinea pig
Result : Does not cause skin sensitisation.

Amides, coco, N-[3-(dimethylamino)propyl]:

Species : Guinea pig
Result : Does not cause skin sensitisation.

Dipropylene glycol monomethyl ether:

Species : human
Result : Does not cause skin sensitisation.

Propylene glycol:

Species : Humans
Result : Does not cause skin sensitisation.

Germ cell mutagenicity

Components:

Picloram:

Germ cell mutagenicity- Assessment : In vitro tests did not show mutagenic effects

Aminopyralid:

Germ cell mutagenicity- Assessment : In vitro genetic toxicity studies were predominantly negative., Animal genetic toxicity studies were negative.

Halauxifen-methyl:

Germ cell mutagenicity- Assessment : In vitro genetic toxicity studies were negative.

N,N-Dimethyldecan-1-amide:

Germ cell mutagenicity- Assessment : In vitro genetic toxicity studies were negative.

Amides, coco, N-[3-(dimethylamino)propyl]:

Germ cell mutagenicity- Assessment : In vitro genetic toxicity studies were negative.

Dipropylene glycol monomethyl ether:

Germ cell mutagenicity- Assessment : In vitro genetic toxicity studies were negative.

Propylene glycol:

Germ cell mutagenicity- Assessment : In vitro genetic toxicity studies were negative., Animal genetic toxicity studies were negative.

Carcinogenicity

Components:

Picloram:

Carcinogenicity - Assessment : Did not cause cancer in laboratory animals.

Aminopyralid:

Carcinogenicity - Assessment : Did not cause cancer in laboratory animals.

Halauxifen-methyl:

Carcinogenicity - Assessment : For similar active ingredient(s)., Halauxifen., Did not cause cancer in laboratory animals.

Dipropylene glycol monomethyl ether:

Carcinogenicity - Assessment : For similar material(s):, Did not cause cancer in laboratory animals.

Propylene glycol:

Carcinogenicity - Assessment : Did not cause cancer in laboratory animals.

Reproductive toxicity

Components:

Picloram:

Reproductive toxicity - Assessment : In animal studies, did not interfere with reproduction.
Did not cause birth defects or other effects in the fetus even at doses which caused toxic effects in the mother.

Aminopyralid:

Reproductive toxicity - Assessment : In animal studies, did not interfere with reproduction.
Did not cause birth defects or other effects in the fetus even at doses which caused toxic effects in the mother.

Halauxifen-methyl:

Reproductive toxicity - Assessment : For similar active ingredient(s)., Halauxifen., In animal studies, did not interfere with reproduction.
Has been toxic to the fetus in laboratory animals at doses toxic to the mother., Did not cause birth defects in laboratory animals.

N,N-Dimethyldecan-1-amide:

Reproductive toxicity - Assessment : Did not cause birth defects in laboratory animals.

Dipropylene glycol monomethyl ether:

Reproductive toxicity - Assessment : For similar material(s):, In laboratory animal studies, effects on reproduction have been seen only at doses that produced significant toxicity to the parent animals.
Did not cause birth defects or any other fetal effects in laboratory animals.

Propylene glycol:

Reproductive toxicity - Assessment : In animal studies, did not interfere with reproduction., In animal studies, did not interfere with fertility.
Did not cause birth defects or any other fetal effects in laboratory animals.

STOT - single exposure

Components:

Aminopyralid:

Assessment : Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Halauxifen-methyl:

Assessment : Evaluation of available data suggests that this material is not an STOT-SE toxicant.

N,N-Dimethyldecan-1-amide:

Assessment : May cause respiratory irritation.

Amides, coco, N-[3-(dimethylamino)propyl]:

Assessment : Available data are inadequate to determine single exposure specific target organ toxicity.

Dipropylene glycol monomethyl ether:

Assessment : Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Propylene glycol:

Assessment : Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Product:

Assessment : Evaluation of available data suggests that this material is not an STOT-RE toxicant.

Repeated dose toxicity

Components:

Picloram:

Remarks : In animals, effects have been reported on the following organs:
Liver.
Gastrointestinal tract.

Aminopyralid:

Remarks : In animals, effects have been reported on the following organs:
Gastrointestinal tract.

Halauxifen-methyl:

Remarks : In animals, effects have been reported on the following organs:
Kidney.
Liver.
Thyroid.

N,N-Dimethyldecan-1-amide:

Remarks : For similar material(s):
In animals, effects have been reported on the following organs:
Eye.
Liver.
Symptoms of excessive exposure may be anesthetic or narcotic effects; dizziness and drowsiness may be observed.

Amides, coco, N-[3-(dimethylamino)propyl]:

Remarks : No relevant data found.

Dipropylene glycol monomethyl ether:

Remarks : Symptoms of excessive exposure may be anesthetic or narcotic effects; dizziness and drowsiness may be observed.

Propylene glycol:

Remarks : In rare cases, repeated excessive exposure to propylene glycol may cause central nervous system effects.

Aspiration toxicity

Components:

Picloram:

Based on physical properties, not likely to be an aspiration hazard.

Aminopyralid:

Based on physical properties, not likely to be an aspiration hazard.

Halauxifen-methyl:

Based on physical properties, not likely to be an aspiration hazard.

N,N-Dimethyldecan-1-amide:

Aspiration into the lungs may occur during ingestion or vomiting, causing lung damage or even death due to chemical pneumonia.

Amides, coco, N-[3-(dimethylamino)propyl]:

Aspiration into the lungs may occur during ingestion or vomiting, causing tissue damage or lung injury.

Dipropylene glycol monomethyl ether:

Based on physical properties, not likely to be an aspiration hazard.

Propylene glycol:

Based on physical properties, not likely to be an aspiration hazard.

SECTION 12: Ecological information

12.1 Toxicity

Product:

Toxicity to algae/aquatic plants : ErC50 (Raphidocelis subcapitata (freshwater green alga)): 0.015 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

ErC50 (Myriophyllum spicatum): 0.00817 mg/l
Exposure time: 14 d

NOEC (Myriophyllum spicatum): 0.00141 mg/l
Exposure time: 14 d

Components:

Picloram:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 8.8 mg/l
Exposure time: 96 h
Test Type: static test

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 44.2 mg/l
Exposure time: 48 h

Toxicity to algae/aquatic plants : ErC50 (Pseudokirchneriella subcapitata (green algae)): > 78.7 mg/l
End point: Growth rate inhibition
Exposure time: 72 h

EC50 (Lemna gibba): 102 mg/l
Exposure time: 14 d
Test Type: Growth inhibition

ErC50 (Myriophyllum spicatum): 0.558 mg/l
Exposure time: 72 h

NOEC (Myriophyllum spicatum): 0.0095 mg/l
Exposure time: 72 h

M-Factor (Acute aquatic toxicity) : 1

Toxicity to microorganisms : EC50 (activated sludge): > 100 mg/l
Exposure time: 3 h

Toxicity to fish (Chronic toxicity) : 0.55 mg/l
Exposure time: 70 d
Species: Rainbow trout (Oncorhynchus mykiss)
Test Type: flow-through test

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: 6.79 mg/l End point: number of offspring Exposure time: 21 d Species: Daphnia magna (Water flea) Test Type: static test LOEC: 13.5 mg/l End point: number of offspring Exposure time: 21 d Species: Daphnia magna (Water flea) Test Type: static test MATC (Maximum Acceptable Toxicant Level): 9.57 mg/l End point: number of offspring Exposure time: 21 d Species: Daphnia magna (Water flea) Test Type: static test
M-Factor (Chronic aquatic toxicity)	:	10
Toxicity to soil dwelling organisms	:	LC50: > 5,000 mg/kg Exposure time: 14 d End point: survival Species: Eisenia fetida (earthworms)
Toxicity to terrestrial organisms	:	oral LD50: > 2510 mg/kg bodyweight. Exposure time: 14 d Species: Anas platyrhynchos (Mallard duck) dietary LC50: > 5000 mg/kg diet. Species: Anas platyrhynchos (Mallard duck) contact LD50: > 100 micrograms/bee Exposure time: 48 h Species: Apis mellifera (bees) oral LD50: > 74 micrograms/bee Exposure time: 48 d Species: Apis mellifera (bees)

Aminopyralid:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 100 mg/l Exposure time: 48 h Method: OECD Test Guideline 202 or Equivalent EC50 (eastern oyster (Crassostrea virginica)): > 89 mg/l Exposure time: 96 h
Toxicity to algae/aquatic	:	ErC50 (diatom Navicula sp.): 18 mg/l

plants		Exposure time: 72 h EC50 (Lemna gibba): > 88 mg/l Exposure time: 14 d ErC50 (Myriophyllum spicatum): 0.363 mg/l Exposure time: 14 d NOEC (Myriophyllum spicatum): 0.0639 mg/l Exposure time: 14 d
M-Factor (Acute aquatic toxicity)	:	1
Toxicity to microorganisms	:	(Bacteria): > 1,000 mg/l
Toxicity to fish (Chronic toxicity)	:	NOEC: 1.36 mg/l End point: growth Exposure time: 36 d Species: Pimephales promelas (fathead minnow) Test Type: flow-through test NOEC: 0.1 mg/l Exposure time: 28 d Species: Cyprinodon variegatus (sheepshead minnow)
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: 100 mg/l Exposure time: 21 d Species: water flea Daphnia magna
M-Factor (Chronic aquatic toxicity)	:	1
Toxicity to soil dwelling organisms	:	LC50: > 1,000 mg/kg Exposure time: 14 d Species: Eisenia fetida (earthworms)
Toxicity to terrestrial organisms	:	Remarks: Material is practically non-toxic to birds on an acute basis (LD50 > 2000 mg/kg). Material is practically non-toxic to birds on a dietary basis (LC50 > 5000 ppm). dietary LC50: > 5620 mg/kg diet. Species: Colinus virginianus (Bobwhite quail) Remarks: Based on information for a similar material: oral LD50: > 2250 mg/kg bodyweight. Species: Colinus virginianus (Bobwhite quail) Remarks: Based on information for a similar material: oral LD50: > 120 micrograms/bee Exposure time: 48 h Species: Apis mellifera (bees) Remarks: Based on information for a similar material:

contact LD50: > 100 micrograms/bee
Exposure time: 48 h
Species: Apis mellifera (bees)
Remarks: Based on information for a similar material:

Halauxifen-methyl:

Toxicity to fish	:	LC50 (Rainbow trout (Oncorhynchus mykiss)): 2.01 mg/l Exposure time: 96 h Test Type: static test Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 2.12 mg/l Exposure time: 48 h Test Type: static test Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	ErC50 (Pseudokirchneriella subcapitata (green algae)): > 3.0 mg/l Exposure time: 96 h ErC50 (Myriophyllum spicatum): 0.000056 mg/l End point: Growth rate inhibition Exposure time: 14 d Test Type: Static renewal test ErC50 (blue-green algae): > 3.0 mg/l Exposure time: 96 h ErC50 (Lemna gibba (duckweed)): > 2.27 mg/l Exposure time: 7 d NOEC (Myriophyllum spicatum): 0.0000025 mg/l End point: Growth rate inhibition Exposure time: 14 d Test Type: Static renewal test ErC50 (Navicula pelliculosa (Freshwater diatom)): 1.50 mg/l Exposure time: 72 h NOEC (Lemna gibba (duckweed)): 0.121 mg/l Exposure time: 7 d
M-Factor (Acute aquatic toxicity)	:	10,000
Toxicity to microorganisms	:	EC50 (activated sludge): > 981 mg/l Exposure time: 1 d
Toxicity to fish (Chronic toxicity)	:	NOEC: 0.536 mg/l Exposure time: 35 d Species: Pimephales promelas (fathead minnow)

Test Type: flow-through test
Method: OECD Test Guideline 210

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0.484 mg/l
End point: number of offspring
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Test Type: semi-static test

M-Factor (Chronic aquatic toxicity) : 10,000

Toxicity to soil dwelling organisms : LC50: > 1,000 mg/kg
Exposure time: 14 d
End point: mortality
Species: Eisenia fetida (earthworms)

Toxicity to terrestrial organisms : dietary LC50: > 5,620 ppm
Exposure time: 5 d
Species: Colinus virginianus (Bobwhite quail)
Method: Other guidelines

dietary LC50: > 5,620 ppm
Exposure time: 5 d
Species: Anas platyrhynchos (Mallard duck)
Method: Other guidelines

oral LD50: > 2250 mg/kg bodyweight.
End point: mortality
Species: Colinus virginianus (Bobwhite quail)

contact LD50: > 98.1 µg/bee
Exposure time: 48 h
End point: mortality
Species: Apis mellifera (bees)

oral LD50: > 108 µg/bee
Exposure time: 48 h
End point: mortality
Species: Apis mellifera (bees)

N,N-Dimethyldecan-1-amide:

Toxicity to fish : LC50 (Danio rerio (zebra fish)): 14.8 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : LC50 (Daphnia magna (Water flea)): 7.7 mg/l
Exposure time: 48 h

Toxicity to algae/aquatic plants : ErC50 (Pseudokirchneriella subcapitata (green algae)): 16.06 mg/l
Exposure time: 72 h

Toxicity to daphnia and other : NOEC: 0.28 mg/l

aquatic invertebrates (Chronic toxicity)		Exposure time: 21 d Species: Daphnia magna (Water flea)

Amides, coco, N-[3-(dimethylamino)propyl]:

Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): < 1 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	:	EC50 (Desmodesmus subspicatus (green algae)): 0.36 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 Remarks: For similar material(s): EC10 (Desmodesmus subspicatus (green algae)): 0.1 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 Remarks: For similar material(s):
M-Factor (Acute aquatic toxicity)	:	1
Toxicity to microorganisms	:	EC50 (Pseudomonas putida): 570 mg/l Exposure time: 16 h

Dipropylene glycol monomethyl ether:

Toxicity to fish	:	LC50 (Poecilia reticulata (guppy)): > 1,000 mg/l Exposure time: 96 h Test Type: static test Method: OECD Test Guideline 203 or Equivalent
Toxicity to daphnia and other aquatic invertebrates	:	LC50 (Daphnia magna (Water flea)): 1,919 mg/l Exposure time: 48 h Test Type: static test Method: OECD Test Guideline 202 or Equivalent LC50 (Crangon crangon (shrimp)): > 1,000 mg/l Exposure time: 96 h Test Type: semi-static test Method: OECD Test Guideline 202 or Equivalent LC50 (copepod Acartia tonsa): 2,070 mg/l Exposure time: 48 h Test Type: static test Method: ISO TC147/SC5/WG2
Toxicity to algae/aquatic plants	:	ErC50 (Pseudokirchneriella subcapitata (green algae)): > 969 mg/l End point: Biomass Exposure time: 96 h Test Type: static test Method: OECD Test Guideline 201 or Equivalent
Toxicity to microorganisms	:	EC10 (Pseudomonas putida): 4,168 mg/l

Exposure time: 18 h

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : LOEC: > 0.5 mg/l
Exposure time: 22 d
Species: Daphnia magna (Water flea)
Test Type: flow-through test
Method: OECD Test Guideline 211 or Equivalent

MATC (Maximum Acceptable Toxicant Level): > 0.5 mg/l
Exposure time: 22 d
Species: Daphnia magna (Water flea)
Test Type: flow-through test
Method: OECD Test Guideline 211 or Equivalent

Propylene glycol:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 40,613 mg/l
Exposure time: 96 h
Test Type: static test
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : LC50 (Ceriodaphnia dubia (water flea)): 18,340 mg/l
Exposure time: 48 h
Test Type: static test
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : ErC50 (Pseudokirchneriella subcapitata (green algae)): 19,000 mg/l
End point: Growth rate inhibition
Exposure time: 96 h
Method: OECD Test Guideline 201

Toxicity to microorganisms : NOEC (Pseudomonas putida): > 20,000 mg/l
Exposure time: 18 h

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 13,020 mg/l
End point: number of offspring
Exposure time: 7 d
Species: Ceriodaphnia dubia (water flea)
Test Type: semi-static test

12.2 Persistence and degradability

Components:

Picloram:

Biodegradability : Result: Not biodegradable
Biodegradation: 1.95 %
Exposure time: 28 d
Method: OECD Test Guideline 301
Remarks: 10-day Window: Fail

Stability in water : Test Type: Hydrolysis

Degradation half life (half-life): > 1.8 yr (45 °C)
pH: 5 - 9
Method: Measured

Photodegradation : Test Type: Half-life (direct photolysis)

Test Type: Half-life (indirect photolysis)
Sensitiser: OH radicals
Concentration: 1,500,000 1/cm3
Rate constant: 8.5E-13 cm3/s

Aminopyralid:

Biodegradability : Result: Not biodegradable
Biodegradation: 19.5 %
Exposure time: 28 d
Method: OECD Test Guideline 301
Remarks: 10-day Window: Fail

Stability in water : Test Type: Hydrolysis
pH: 5 - 9
Method: Stable

Test Type: Hydrolysis
pH: 5 - 9
Method: Stable

Photodegradation : Test Type: Half-life (indirect photolysis)
Sensitiser: OH radicals
Concentration: 1,500,000 1/cm3
Rate constant: 1.6646E-12 cm3/s
Method: Estimated.

Halauxifen-methyl:

Biodegradability : Test Type: O2 consumption
Result: Not biodegradable
Biodegradation: 38.68 %
Exposure time: 14 d
Method: OECD Test Guideline 301D

N,N-Dimethyldecan-1-amide:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 66.12 %
Exposure time: 11 d
Method: OECD Test Guideline 301B or Equivalent
Remarks: 10-day Window: Pass
Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

Amides, coco, N-[3-(dimethylamino)propyl]:

Biodegradability : Result: Readily biodegradable.

Biodegradation: > 60 %
Exposure time: 28 d
Method: OECD Test Guideline 301D
Remarks: 10-day Window: Pass

Biochemical Oxygen Demand (BOD) : > 60 %
Incubation time: 28 d

Dipropylene glycol monomethyl ether:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 75 %
Exposure time: 28 d
Remarks: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.
Material is ultimately biodegradable (reaches > 70% mineralization in OECD test(s) for inherent biodegradability).

Test Type: aerobic
Method: OECD Test Guideline 301F or Equivalent
Remarks: 10-day Window: Pass

Biochemical Oxygen Demand (BOD) : 0 %
Incubation time: 5 d

0 %
Incubation time: 10 d

31.6 %
Incubation time: 20 d

Chemical Oxygen Demand (COD) : 2.02 kg/kg
Method: Dichromates

ThOD : 2.06 kg/kg

Photodegradation : Test Type: Half-life (indirect photolysis)
Sensitiser: OH radicals
Rate constant: 5.00E-05 cm3/s
Method: Estimated.

Propylene glycol:

Biodegradability : Test Type: aerobic
Result: Readily biodegradable.
Biodegradation: 81 %
Exposure time: 28 d
Method: OECD Test Guideline 301F or Equivalent
Remarks: 10-day Window: Pass

Result: Readily biodegradable.
Biodegradation: 96 %
Exposure time: 64 d
Method: OECD Test Guideline 306 or Equivalent

Remarks: 10-day Window: Not applicable

Biochemical Oxygen Demand (BOD) : 69.000 %
Incubation time: 5 d

70.000 %
Incubation time: 10 d

86.000 %
Incubation time: 20 d

Chemical Oxygen Demand (COD) : 1.53 kg/kg

ThOD : 1.68 kg/kg

Photodegradation : Rate constant: 1.28E-11 cm3/s
Method: Estimated.

12.3 Bioaccumulative potential

Components:

Picloram:

Bioaccumulation : Species: Lepomis macrochirus (Bluegill sunfish)
Bioconcentration factor (BCF): 0.54

Partition coefficient: n-octanol/water : log Pow: -1.92
Remarks: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Aminopyralid:

Partition coefficient: n-octanol/water :

log Pow: -2.87
Remarks: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Halauxifen-methyl:

Bioaccumulation : Species: Lepomis macrochirus (Bluegill sunfish)
Exposure time: 42 d
Temperature: 21.8 °C
Concentration: 0.00194 mg/l
Bioconcentration factor (BCF): 233

Partition coefficient: n-octanol/water : log Pow: 3.76
Remarks: Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5).

N,N-Dimethyldecan-1-amide:

Partition coefficient: n- : log Pow: 3.44

octanol/water | Method: Estimated.
Remarks: Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5).

Amides, coco, N-[3-(dimethylamino)propyl]:

Partition coefficient: n-octanol/water : Remarks: No relevant data found.

Dipropylene glycol monomethyl ether:

Partition coefficient: n-octanol/water : log Pow: 1.01
Method: Measured
Remarks: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Propylene glycol:

Bioaccumulation : Bioconcentration factor (BCF): 0.09
Method: Estimated.

Partition coefficient: n-octanol/water : log Pow: -1.07
Method: Measured
Remarks: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

12.4 Mobility in soil

Components:

Picloram:

Distribution among environmental compartments : Koc: 35
Remarks: Potential for mobility in soil is very high (Koc between 0 and 50).

Stability in soil : Test Type: aerobic degradation
Dissipation time: 167 - 513 h
Method: Measured
Test Type: anaerobic degradation
Dissipation time: > 300 h
Method: Measured

Aminopyralid:

Distribution among environmental compartments : Koc: 14
Remarks: Potential for mobility in soil is very high (Koc between 0 and 50).

Halauxifen-methyl:

Distribution among environmental compartments : Koc: 5684
Remarks: Expected to be relatively immobile in soil (Koc > 5000).

N,N-Dimethyldecan-1-amide:

Distribution among environmental compartments : Koc: 351 - 630
Remarks: Potential for mobility in soil is medium (Koc between 150 and 500).

Amides, coco, N-[3-(dimethylamino)propyl]:

Distribution among environmental compartments : Remarks: No relevant data found.

Dipropylene glycol monomethyl ether:

Distribution among environmental compartments : Koc: 0.28
Method: Estimated.
Remarks: Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.
Potential for mobility in soil is very high (Koc between 0 and 50).

Propylene glycol:

Distribution among environmental compartments : Koc: < 1
Method: Estimated.
Remarks: Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.
Potential for mobility in soil is very high (Koc between 0 and 50).

12.5 Results of PBT and vPvB assessment

Product:

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Components:

Picloram:

Assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT).. This substance is not considered to be very persistent and very bioaccumulating (vPvB).

Aminopyralid:

Assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT).. This substance is not considered to be very persistent and very bioaccumulating (vPvB).

Halauxifen-methyl:

Assessment : Substance is not persistent, bioaccumulative, and toxic (PBT).. Substance is not very persistent and very bioaccumu-

lative (vPvB).

N,N-Dimethyldecan-1-amide:

Assessment : Substance is not persistent, bioaccumulative, and toxic (PBT).. Substance is not very persistent and very bioaccumulative (vPvB).

Amides, coco, N-[3-(dimethylamino)propyl]:

Assessment : This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

Dipropylene glycol monomethyl ether:

Assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT).. This substance is not considered to be very persistent and very bioaccumulating (vPvB).

Propylene glycol:

Assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT).. This substance is not considered to be very persistent and very bioaccumulating (vPvB).

12.6 Other adverse effects

Product:

Endocrine disrupting potential : This substance/mixture does not contain components considered to have endocrine disrupting properties for environment according to UK REACH Article 57(f).

Components:

Picloram:

Ozone-Depletion Potential : Remarks: This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

Aminopyralid:

Ozone-Depletion Potential : Remarks: This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

Halauxifen-methyl:

Ozone-Depletion Potential : Remarks: This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

N,N-Dimethyldecan-1-amide:

Ozone-Depletion Potential : Remarks: This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

Amides, coco, N-[3-(dimethylamino)propyl]:

Ozone-Depletion Potential : Remarks: This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

Dipropylene glycol monomethyl ether:

Ozone-Depletion Potential : Regulation: (Update: 11/22/2010 KS 11/25/2010 LMK)
Remarks: This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

Propylene glycol:

Ozone-Depletion Potential : Remarks: This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : If wastes and/or containers cannot be disposed of according to the product label directions, disposal of this material must be in accordance with your local or area regulatory authorities. This information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations.
If the material as supplied becomes a waste, follow all applicable regional, national and local laws.

SECTION 14: Transport information

14.1 UN number

ADR : UN 3082

RID : UN 3082

IMDG : UN 3082

IATA : UN 3082

14.2 UN proper shipping name

ADR : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(Halauxifen-methyl, Picloram)

RID : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(Halauxifen-methyl, Picloram)

IMDG	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Halauxifen-methyl, Picloram)
IATA	:	Environmentally hazardous substance, liquid, n.o.s. (Halauxifen-methyl, Picloram)

14.3 Transport hazard class(es)

		Class	Subsidiary risks
ADR	:	9	
RID	:	9	
IMDG	:	9	
IATA	:	9	

14.4 Packing group

ADR

Packing group	:	III
Classification Code	:	M6
Hazard Identification Number	:	90
Labels	:	9
Tunnel restriction code	:	(-)

RID

Packing group	:	III
Classification Code	:	M6
Hazard Identification Number	:	90
Labels	:	9

IMDG

Packing group	:	III
Labels	:	9
EmS Code	:	F-A, S-F
Remarks	:	Stowage category A

IATA (Cargo)

Packing instruction (cargo aircraft)	:	964
Packing instruction (LQ)	:	Y964
Packing group	:	III
Labels	:	Miscellaneous

IATA (Passenger)

Packing instruction (passenger aircraft)	:	964
Packing instruction (LQ)	:	Y964
Packing group	:	III
Labels	:	Miscellaneous

14.5 Environmental hazards

ADR

Environmentally hazardous	:	yes

RID
Environmentally hazardous : yes

IMDG
Marine pollutant : yes(Halauxifen-methyl, Picloram)

14.6 Special precautions for user

Remarks : Marine Pollutants assigned UN number 3077 and 3082 in single or combination packaging containing a net quantity per single or inner packaging of 5 L or less for liquids or having a net mass per single or inner packaging of 5 KG or less for solids may be transported as non-dangerous goods as provided in section 2.10.2.7 of IMDG code, IATA Special provision A197, and ADR/RID special provision 375.

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable for product as supplied.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Relevant EU provisions transposed through retained EU law

UK REACH Candidate list of substances of very high concern (SVHC) for Authorisation	:	Not applicable
The Persistent Organic Pollutants Regulations (retained Regulation (EU) 2019/1021 as amended for Great Britain)	:	Not applicable
Regulation (EU) No 2024/590 on substances that deplete the ozone layer	:	Not applicable
UK REACH List of substances subject to authorisation (Annex XIV)	:	Not applicable

Registration Number : 21346

15.2 Chemical safety assessment

A Chemical Safety Assessment is not required for this substance when it is used in the specified applications.
The mixture is evaluated within the frame of the provisions of Regulation (EC) No. 1107/2009.
Refer to the label for exposure assessment information.

SECTION 16: Other information

Full text of H-Statements

H302	:	Harmful if swallowed.
H314	:	Causes severe skin burns and eye damage.
H315	:	Causes skin irritation.
H318	:	Causes serious eye damage.
H319	:	Causes serious eye irritation.
H335	:	May cause respiratory irritation.
H400	:	Very toxic to aquatic life.
H410	:	Very toxic to aquatic life with long lasting effects.
H411	:	Toxic to aquatic life with long lasting effects.
H412	:	Harmful to aquatic life with long lasting effects.

Full text of other abbreviations

Acute Tox.	:	Acute toxicity
Aquatic Acute	:	Short-term (acute) aquatic hazard
Aquatic Chronic	:	Long-term (chronic) aquatic hazard
Eye Dam.	:	Serious eye damage
Eye Irrit.	:	Eye irritation
Skin Corr.	:	Skin corrosion
Skin Irrit.	:	Skin irritation
STOT SE	:	Specific target organ toxicity - single exposure
2000/39/EC	:	Europe. Commission Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values
Corteva OEL	:	Corteva Occupational Exposure Limit
GB EH40	:	UK. EH40 WEL - Workplace Exposure Limits
2000/39/EC / TWA	:	Limit Value - eight hours
Corteva OEL / STEL	:	Short term exposure limit
Corteva OEL / TWA	:	8-hr TWA
GB EH40 / TWA	:	Long-term exposure limit (8-hour TWA reference period)
GB EH40 / STEL	:	Short-term exposure limit (15-minute reference period)

ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; ASTM - American Society for the Testing of Materials; ECx - Concentration associated with x% response; EmS - Emergency Schedule; ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - not otherwise specified; NOEC - Non-Observed Effective Concentration; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; (Q)SAR - (Quantitative) Structure Activity Relationship; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SDS - Safety Data Sheet; UN - United Nations.

Further information

Classification of the mixture:		**Classification procedure:**
Skin Irrit. 2	H315	Based on product data or assessment

Eye Dam. 1	H318	Calculation method
STOT SE 3	H335	Calculation method
Aquatic Acute 1	H400	Based on product data or assessment
Aquatic Chronic 1	H410	Based on product data or assessment

Product code: GF-4021

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