

Safety Data Sheet

DOW AGROSCIENCES CANADA INC.

Product name: Ares SN Herbicide

Revision Date: 03/13/2019

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DOW AGROSCIENCES CANADA INC. 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.

1. Identification

Product name: Ares SN Herbicide

Recommended use of the chemical and restriction on use

Identified uses: End use herbicide product

COMPANY IDENTIFICATION

DOW AGROSCIENCES CANADA INC.
#2400, 215 - 2ND STREET S.W.
CALGARY AB T2P 1M4
CANADA

Customer Information Number: 800-667-3852 solutions@dow.com

EMERGENCY TELEPHONE NUMBER

24-Hour Emergency Contact: 613-996-6666

Local Emergency Contact: 613-996-6666

2. Hazards Identification

According to Controlled Products Regulations (CPR) (SOR/88-66)

Emergency overview

CAUTION:
POISON.
KEEP OUT OF REACH OF CHILDREN.
Harmful if swallowed.
Irritating to eyes.
Irritating to skin.
Do not get in eyes, on skin, or on clothing.
Do not breathe gas/vapour/fume/spray.
Wash thoroughly after handling.

3. Composition / Information on Ingredients

According to Hazardous Products Regulations (HPR) (SOR/2015-17)

<u>CAS Number</u>	<u>Weight %</u>	<u>Chemical name</u>
81334-34-1	1.4 %	imazapyr
114311-32-9	3.1 %	Imazamox
9005-64-5	25.0 - 50.0%	Sorbitan monolaurate, ethoxylated

4. First-Aid Measures

Description of first aid measures

General advice:

Remove contaminated clothing.

If inhaled:

Keep patient calm, remove to fresh air, seek medical attention.

If on skin:

Wash thoroughly with soap and water.

If in eyes:

Wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

If swallowed:

Immediately rinse mouth and then drink 200-300 ml of water, seek medical attention.

Most important symptoms and effects, both acute and delayed

Symptoms: The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11., (Further) symptoms and / or effects are not known so far

Indication of any immediate medical attention and special treatment needed

Note to physician

Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media:

water spray, carbon dioxide, foam, dry powder

Special hazards arising from the substance or mixture

Hazards during fire-fighting:

carbon monoxide, ammonia, carbon dioxide, nitrogen oxides

The substances/groups of substances mentioned can be released in case of fire.

Advice for fire-fighters

Protective equipment for fire-fighting:

Wear self-contained breathing apparatus and chemical-protective clothing.

Further information:

In case of fire and/or explosion do not breathe fumes. Keep containers cool by spraying with water if exposed to fire. Collect contaminated extinguishing water separately, do not allow to reach sewage or effluent systems. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Use personal protective clothing. Avoid contact with the skin, eyes and clothing. Do not breathe vapour/spray.

Environmental precautions

Do not discharge into the subsoil/soil. Do not discharge into drains/surface waters/groundwater.

Methods and material for containment and cleaning up

Dike spillage. Pick up with suitable absorbent material. Place into suitable containers for reuse or disposal in a licensed facility. Spilled substance/product should be recovered and applied according to label rates whenever possible. If application of spilled substance/product is not possible, then spills should be contained, solidified, and placed in suitable containers for disposal. After decontamination, spill area can be washed with water. Collect wash water for approved disposal.

7. Handling and Storage**Precautions for safe handling**

No special measures necessary if stored and handled correctly. Ensure thorough ventilation of stores and work areas. When using do not eat, drink or smoke. Hands and/or face should be washed before breaks and at the end of the shift.

Protection against fire and explosion:

No special precautions necessary. The substance/product is non-combustible. Product is not explosive.

Conditions for safe storage, including any incompatibilities

Segregate from foods and animal feeds.

Further information on storage conditions: Keep only in the original container in a cool, dry, well-ventilated place away from ignition sources, heat or flame. Protect containers from physical damage. Protect against contamination. The authority permits and storage regulations must be observed.

Protect from temperatures below: -10 °C

The product can crystallize below the limit temperature.

Protect from temperatures above: 40 °C

Changes in the properties of the product may occur if substance/product is stored above indicated temperature for extended periods of time.

8. Exposure Controls/Personal Protection

Users of a pesticidal product should refer to the product label for personal protective equipment requirements.

No occupational exposure limits known.

Advice on system design:

Whenever possible, engineering controls should be used to minimize the need for personal protective equipment.

Personal protective equipment**Respiratory protection:**

Wear respiratory protection if ventilation is inadequate. Wear a NIOSH-certified (or equivalent) organic vapour/particulate respirator. For situations where the airborne concentrations may exceed the level for which an air purifying respirator is effective, or where the levels are unknown or Immediately Dangerous to Life or Health (IDLH), use NIOSH-certified full facepiece pressure demand self-contained breathing apparatus (SCBA) or a full facepiece pressure demand supplied-air respirator (SAR) with escape provisions.

Hand protection:

Chemical resistant protective gloves, Protective glove selection must be based on the user's assessment of the workplace hazards.

Eye protection:

Safety glasses with side-shields. Tightly fitting safety goggles (chemical goggles). Wear face shield if splashing hazard exists.

Body protection:

Body protection must be chosen depending on activity and possible exposure, e.g. head protection, apron, protective boots, chemical-protection suit.

General safety and hygiene measures:

The statements on personal protective equipment in the instructions for use apply when handling crop-protection agents in final-consumer packing. Wearing of closed work clothing is recommended. Store work clothing separately. Keep away from food, drink and animal feeding stuffs.

9. Physical and Chemical Properties

Form:	liquid
Odour:	aliphatic
Odour threshold:	Not determined due to potential health hazard by inhalation.
Colour:	yellow to amber
pH value:	approx. 5 - 7 (approx. 20 °C) (measured with the undiluted substance)
solidification temperature:	approx. -14 °C (1,013.3 hPa)
Boiling point:	approx. 100 °C (1,013.3 hPa) Information applies to the solvent.
Flash point:	Non-flammable.
Flammability:	not flammable
Lower explosion limit:	As a result of our experience with this product and our knowledge of its composition we do not expect any hazard as long as the product is used appropriately and in accordance with the intended use.
Upper explosion limit:	As a result of our experience with this product and our knowledge of its composition we do not expect any hazard as long as the product is used appropriately and in accordance with the intended use.
Autoignition:	398 °C
Vapour pressure:	approx. 23.4 hPa (20 °C) Information applies to the solvent.
Density:	approx. 1.08 g/cm ³ (20 °C) approx. 1.05 g/cm ³ (55 °C)
Vapour density:	not applicable
Thermal decomposition:	carbon monoxide, carbon dioxide, nitrogen dioxide, nitrogen oxide, To be archived: Hydrocarbons Stable at ambient temperature. If product is heated above decomposition temperature hazardous fumes may be released. No decomposition if stored and handled as prescribed/indicated.
Viscosity, dynamic:	approx. 83 mPa.s (20 °C) not determined
Solubility in water:	soluble
Evaporation rate:	not applicable
Other Information:	The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

If necessary, information on other physical and chemical parameters is indicated in this section.

10. Stability and Reactivity

Reactivity

No hazardous reactions if stored and handled as prescribed/indicated.

Oxidizing properties:

Based on its structural properties the product is not classified as oxidizing.

Chemical stability

The product is stable if stored and handled as prescribed/indicated.

Possibility of hazardous reactions

No hazardous reactions if stored and handled as prescribed/indicated.

Conditions to avoid

Avoid all sources of ignition: heat, sparks, open flame. Avoid prolonged storage. Avoid electro-static discharge. Avoid contamination. Avoid prolonged exposure to extreme heat. Avoid extreme temperatures.

Incompatible materials

strong bases, strong acids, strong oxidizing agents

Hazardous decomposition products

Decomposition products:

Hazardous decomposition products: No hazardous decomposition products if stored and handled as prescribed/indicated.

Thermal decomposition:

Possible thermal decomposition products:

carbon monoxide, carbon dioxide, nitrogen dioxide, nitrogen oxide, To be archived: Hydrocarbons

Stable at ambient temperature. If product is heated above decomposition temperature hazardous fumes may be released.

No decomposition if stored and handled as prescribed/indicated.

11. Toxicological information

Primary routes of exposure

Routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

Acute Toxicity/Effects

Acute toxicity

Assessment of acute toxicity: Relatively nontoxic after single ingestion. Relatively nontoxic after short-term inhalation. Relatively nontoxic after short-term skin contact.

Oral

Type of value: LD50

Species: rat (male/female)

Value: > 5,000 mg/kg (OECD Guideline 401)

Inhalation

Type of value: LC50

Species: rat (male/female)

Value: > 6.18 mg/l (OECD Guideline 403)

Exposure time: 4 h

Dermal

Type of value: LD50

Species: rabbit (male/female)

Value: > 5,000 mg/kg (OECD Guideline 402)

Assessment other acute effects

Assessment of STOT single:

Based on the available information there is no specific target organ toxicity to be expected after a single exposure.

The product has not been tested. The statement has been derived from the properties of the individual components.

Irritation / corrosion

Assessment of irritating effects: May cause slight irritation to the skin. May cause moderate but temporary irritation to the eyes.

Skin

Species: rabbit

Result: non-irritant

Eye

Species: rabbit

Result: non-irritant

Method: OECD Guideline 405

Sensitization

Assessment of sensitization: The product has not been tested. The statement has been derived from substances/products of a similar structure or composition. There is no evidence of a skin-sensitizing potential.

Buehler test

Species: guinea pig

Result: Non-sensitizing.

Method: OECD Guideline 406

Aspiration Hazard

No aspiration hazard expected. The product has not been tested. The statement has been derived from the properties of the individual components.

Chronic Toxicity/Effects

Repeated dose toxicity

Assessment of repeated dose toxicity: The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: ammonia

Assessment of repeated dose toxicity: After repeated administration the prominent effect is the induction of corrosion.

Genetic toxicity

Assessment of mutagenicity: The product has not been tested. The statement has been derived from the properties of the individual components. Mutagenicity tests revealed no genotoxic potential.

Carcinogenicity

Assessment of carcinogenicity: The product has not been tested. The statement has been derived from the properties of the individual components. The results of various animal studies gave no indication of a carcinogenic effect.

Reproductive toxicity

Assessment of reproduction toxicity: The product has not been tested. The statement has been derived from the properties of the individual components. The results of animal studies gave no indication of a fertility impairing effect.

Teratogenicity

Assessment of teratogenicity: The product has not been tested. The statement has been derived from the properties of the individual components. Animal studies gave no indication of a developmental toxic effect at doses that were not toxic to the parental animals.

Other Information

Misuse can be harmful to health.

Symptoms of Exposure

The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11., (Further) symptoms and / or effects are not known so far

Medical conditions aggravated by overexposure

Individuals with pre-existing diseases of the respiratory system, skin or eyes may have increased susceptibility to excessive exposures.

12. Ecological Information**Toxicity**Aquatic toxicity

Assessment of aquatic toxicity:

Acutely harmful for fish. Acutely harmful for aquatic invertebrates. Acutely harmful for aquatic plants.

Very toxic to aquatic life with long lasting effects.

The product has not been tested. The statement has been derived from the properties of the individual components.

Toxicity to fish

Information on: Imazapyr technical

LC50 (96 h) > 100 mg/l, Oncorhynchus mykiss

Information on: imazamox

LC50 (96 h) > 97 mg/l, Cyprinodon variegatus

Aquatic invertebrates

Information on: Imazapyr technical

EC50 (48 h) > 100 mg/l, Daphnia magna

Information on: imazamox

EC50 (48 h) > 100 mg/l, Daphnia magna

Aquatic plants

Information on: Imazapyr technical

EC50 (7 d) 11.7 mg/l, Anabaena flos-aquae

No observed effect concentration 5.26 mg/l, Anabaena flos-aquae

Information on: imazamox
EC10 (7 d) 0.0095 mg/l, Lemna gibba
EC50 (72 h) 29.1 mg/l (growth rate), Pseudokirchneriella subcapitata
EC50 (7 d) 0.031 mg/l (growth rate), Lemna gibba

Chronic toxicity to fish

Information on: Imazapyr technical
No observed effect concentration (33 d) 118 mg/l, Pimephales promelas

Information on: imazamox
No observed effect concentration (35 d) 1.22 mg/l, Cyprinodon variegatus

Chronic toxicity to aquatic invertebrates

Information on: Imazapyr technical
No observed effect concentration (21 d) 97.1 mg/l, Daphnia magna

Information on: imazamox
No observed effect concentration (21 d) 137 mg/l, Daphnia magna

Assessment of terrestrial toxicity

With high probability not acutely harmful to terrestrial organisms.

Bioaccumulative potential

Bioaccumulation potential

Information on: imazamox

Bioconcentration factor: < 1, Lepomis macrochirus (OECD-Guideline 305)
Does not accumulate in organisms.

Information on: Imazapyr technical

Bioconcentration factor: < 1.0, Lepomis macrochirus
Does not accumulate in organisms.

Mobility in soil

Assessment transport between environmental compartments

The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: imazamox

The substance will not evaporate into the atmosphere from the water surface.
Following exposure to soil, the product trickles away and can - dependant on degradation - be transported to deeper soil areas with larger water loads.

Information on: Imazapyr technical

The substance will not evaporate into the atmosphere from the water surface.
Following exposure to soil, the product trickles away and can - dependant on degradation - be transported to deeper soil areas with larger water loads.

Additional information

Other ecotoxicological advice:
Do not discharge product into the environment without control.

13. Disposal considerations

Waste disposal of substance:
See product label for disposal and recycling instructions.

14. Transport Information**Land transport**

TDG

Not classified as a dangerous good under transport regulations

Sea transport

IMDG

Hazard class:	9
Packing group:	III
ID number:	UN 3082
Hazard label:	9, EHSM
Marine pollutant:	YES
Proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains IMAZAMOX)

Air transport

IATA/ICAO

Hazard class:	9
Packing group:	III
ID number:	UN 3082
Hazard label:	9, EHSM
Proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains IMAZAMOX)

15. Regulatory Information**Federal Regulations****Registration status:**

Crop Protection DSL, CA released / exempt

Chemical DSL, CA released; restriction on quantity / not listed

According to Controlled Products Regulations (CPR) (SOR/88-66)**Hazardous Products Act Information: WHMIS Classification**

This product is exempt under WHMIS.

Pest Control Products Act (PCPA) Registration Number: 33167

16. Other Information

DOW AGROSCIENCES CANADA INC. urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.

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