

Safety Data Sheet

VARISTO

Revision date : 2017/02/15
Version: 3.1

Page: 1/11
(30617892/SDS_CPA_US/EN)

1. Identification

Product identifier used on the label

VARISTO

Recommended use of the chemical and restriction on use

Recommended use*: herbicide

* The "Recommended use" identified for this product is provided solely to comply with a Federal requirement and is not part of the seller's published specification. The terms of this Safety Data Sheet (SDS) do not create or infer any warranty, express or implied, including by incorporation into or reference in the seller's sales agreement.

Details of the supplier of the safety data sheet

Company:

BASF CORPORATION
100 Park Avenue
Florham Park, NJ 07932, USA

Telephone: +1 973 245-6000

Emergency telephone number

CHEMTREC: 1-800-424-9300
BASF HOTLINE: 1-800-832-HELP (4357)

Other means of identification

Substance number: 642608
EPA Registration number: 241-447
Synonyms: Imazamox + bentazone sodium tech.

2. Hazards Identification

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

Classification of the product

Acute Tox.	4 (oral)	Acute toxicity
Aquatic Acute	1	Hazardous to the aquatic environment - acute
Aquatic Chronic	1	Hazardous to the aquatic environment - chronic

Label elements

Pictogram:

Safety Data Sheet

VARISTO

Revision date : 2017/02/15
Version: 3.1

Page: 2/11
(30617892/SDS_CPA_US/EN)



Signal Word:
Warning

Hazard Statement:

H302 Harmful if swallowed.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary Statements (Prevention):

P273 Avoid release to the environment.
P270 Do not eat, drink or smoke when using this product.
P264 Wash with plenty of water and soap thoroughly after handling.

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 to hazardous or special waste collection point.

Hazards not otherwise classified

Labeling of special preparations (GHS):

May produce an allergic reaction. Contains: bentazone

3. Composition / Information on Ingredients

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

<u>CAS Number</u>	<u>Weight %</u>	<u>Chemical name</u>
114311-32-9	43.66 %	bentazon sodium
	2.0 %	Imazamox

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.

Safety Data Sheet

VARISTO

Revision date : 2017/02/15
Version: 3.1

Page: 3/11
(30617892/SDS_CPA_US/EN)

If in eyes:

Wash affected eyes for at least 15 minutes under running water with eyelids held open.

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 important symptoms and effects are so far not known.

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, foam, dry powder, carbon dioxide

Special hazards arising from the substance or mixture

Hazards during fire-fighting:
carbon monoxide, 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:

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. In case of fire and/or explosion do not breathe fumes. Keep containers cool by spraying with water if exposed to fire.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

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

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

For small amounts: Pick up with suitable absorbent material (e.g. sand, sawdust, general-purpose binder, kieselguhr).
For large amounts: Dike spillage. Pump off product.

Safety Data Sheet

VARISTO

Revision date : 2017/02/15
Version: 3.1

Page: 4/11
(30617892/SDS_CPA_US/EN)

Dispose of absorbed material in accordance with regulations. Collect waste in suitable containers, which can be labeled and sealed. Clean contaminated floors and objects thoroughly with water and detergents, observing environmental regulations.

7. Handling and Storage

Precautions for safe handling

RECOMMENDATIONS ARE FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS. PESTICIDE APPLICATORS & WORKERS must refer to the Product Label and Directions for Use attached to the product for Agricultural Use Requirements in accordance with the EPA Worker Protection Standard 40 CFR part 170. Ensure adequate ventilation. Keep away from sources of ignition - No smoking. Keep container tightly sealed. Protect against heat. Handle and open container with care. Do not open until ready to use. Once container is opened, content should be used as soon as possible. Avoid aerosol formation. Avoid dust formation. Provide means for controlling leaks and spills. Do not return residues to the storage containers. Follow label warnings even after container is emptied. The substance/ product may be handled only by appropriately trained personnel. Avoid all direct contact with the substance/product. Avoid contact with the skin, eyes and clothing. Avoid inhalation of dusts/mists/vapours. Wear suitable personal protective clothing and equipment.

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 away from heat. Protect from direct sunlight.

Protect from temperatures below: -5 °C

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

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

RECOMMENDATIONS FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS:

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

Safety Data Sheet

VARISTO

Revision date : 2017/02/15
Version: 3.1

Page: 5/11
(30617892/SDS_CPA_US/EN)

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:

Wear long sleeved work shirt and long work pants in addition to other stated personal protective equipment. Work place should be equipped with a shower and an eye wash. Handle in accordance with good industrial hygiene and safety practice. Personal protective equipment should be decontaminated prior to reuse. Gloves must be inspected regularly and prior to each use. Replace if necessary (e.g. pinhole leaks). Take off immediately all contaminated clothing. Store work clothing separately. Hands and/or face should be washed before breaks and at the end of the shift. No eating, drinking, smoking or tobacco use at the place of work. Keep away from food, drink and animal feeding stuffs.

9. Physical and Chemical Properties

Form:	liquid
Odour:	odourless
Odour threshold:	not applicable, odour not perceivable
Colour:	red-brown
pH value:	approx. 5 - 7 (1 %(m), 21 °C)
Melting temperature:	The product has not been tested.
Boiling point:	approx. 100 °C (1,013 hPa) Information applies to the solvent.
Flash point:	No flash point - Measurement made up to the boiling point. Information applies to the solvent.
Flammability:	Based on the structure or composition there is no indication of flammability
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:	approx. 546 °C

(Directive
92/69/EEC, A.15)

Safety Data Sheet

VARISTO

Revision date : 2017/02/15
Version: 3.1

Page: 6/11
(30617892/SDS_CPA_US/EN)

Vapour pressure:	approx. 23.4 hPa (20 °C)	
Density:	Information applies to the solvent. approx. 1.19 g/cm3 (20 °C, 1,013 hPa)	(OECD Guideline 109)
Vapour density:	not applicable	
Partitioning coefficient n-octanol/water (log Pow):	not applicable	
Thermal decomposition:	No decomposition if stored and handled as prescribed/indicated.	
Viscosity, dynamic:	9.377 mPa.s (20 °C)	(OECD 114)
Solubility in water:	soluble	
Evaporation rate:	not applicable	
Other Information:	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:

not fire-propagating (Directive 2004/73/EC, A.21)

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 extreme temperatures. Avoid prolonged exposure to extreme heat. Avoid contamination. Avoid electro-static discharge. Avoid prolonged storage.

Incompatible materials

strong acids, strong bases, strong oxidizing agents

Hazardous decomposition products

Decomposition products:

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

Thermal decomposition:

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.

Safety Data Sheet

VARISTO

Revision date : 2017/02/15
Version: 3.1

Page: 7/11
(30617892/SDS_CPA_US/EN)

Acute Toxicity/Effects

Acute toxicity

Assessment of acute toxicity: Of moderate toxicity after single ingestion. Virtually nontoxic after a single skin contact. Virtually nontoxic by inhalation.

Oral

Type of value: LD50

Species: rat (female)

Value: > 300 - < 2,000 mg/kg (OECD Guideline 423)

Data refer to a diluted aqueous solution of the substance.

Inhalation

Type of value: LC50

Species: rat (male/female)

Value: > 5 mg/l (OECD Guideline 403)

Exposure time: 4 h

An aerosol was tested.

Dermal

Type of value: LD50

Species: rat (male/female)

Value: > 2,000 mg/kg (OECD Guideline 402)

Data refer to a diluted aqueous solution of the substance.

Assessment other acute effects

Assessment of STOT single:

The available information is not sufficient for the evaluation of specific target organ toxicity.

Irritation / corrosion

Assessment of irritating effects: Not irritating to the skin. Not irritating to the eyes.

Skin

Species: rabbit

Result: non-irritant

Method: OECD Guideline 404

Eye

Species: rabbit

Result: non-irritant

Method: OECD Guideline 405

Sensitization

Assessment of sensitization: There is no evidence of a skin-sensitizing potential.

Mouse Local Lymph Node Assay (LLNA)

Species: mouse

Result: Non-sensitizing.

Method: OECD Guideline 429

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. No substance-specific organotoxicity was observed after repeated administration to animals.

Safety Data Sheet

VARISTO

Revision date : 2017/02/15
Version: 3.1

Page: 8/11
(30617892/SDS_CPA_US/EN)

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.

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 important symptoms and effects are so far not known.

12. Ecological Information

Toxicity

Aquatic toxicity

Assessment of aquatic toxicity:

Very toxic to aquatic life with long lasting effects.

Toxicity to fish

LC50 (96 h) > 100 mg/l, *Oncorhynchus mykiss* (OECD 203; ISO 7346; 92/69/EEC, C.1, static)
Nominal concentration.

Aquatic invertebrates

LC50 (48 h) > 100 mg/l, *Daphnia magna* (OECD Guideline 202, part 1)
Nominal concentration.

Aquatic plants

EC50 (72 h) > 100 mg/l (growth rate), *Pseudokirchneriella subcapitata* (OECD Guideline 201)
The value meets the highest applied test concentration.

EC50 (7 d) 0.79 mg/l (growth rate), *Lemna gibba* (OECD guideline 221)

Bioaccumulative potential

Assessment bioaccumulation potential

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

Bioaccumulation potential

Information on: bentazone

Because of the n-octanol/water distribution coefficient (log Pow) accumulation in organisms is not to be expected.

Safety Data Sheet

VARISTO

Revision date : 2017/02/15
Version: 3.1

Page: 9/11
(30617892/SDS_CPA_US/EN)

Information on: Imazamox

Bioconcentration factor: < 1

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: 1H-2,1,3-Benzothiadiazin-4(3H)-one, 3-(1-methylethyl)-, 2,2-dioxide

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.*

Additional information

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

13. Disposal considerations

Waste disposal of substance:

Pesticide wastes are regulated. Improper disposal of excess pesticide, spray mix or rinsate is a violation of federal law. If pesticide wastes cannot be disposed of according to label instructions, contact the State Pesticide or Environmental Control Agency or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Container disposal:

Rinse thoroughly at least three times (triple rinse) in accordance with EPA recommendations. Consult state or local disposal authorities for approved alternative procedures such as container recycling. Recommend crushing, puncturing or other means to prevent unauthorized use of used containers.

14. Transport Information

Land transport

USDOT

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)

Safety Data Sheet

VARISTO

Revision date : 2017/02/15
Version: 3.1

Page: 10/11
(30617892/SDS_CPA_US/EN)

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 TSCA, US released / exempt

Chemical TSCA, US blocked / not listed

EPCRA 311/312 (Hazard categories): Not hazardous;

NFPA Hazard codes:

Health : 1 Fire: 1 Reactivity: 0 Special:

Labeling requirements under FIFRA

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 workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label.

WARNING:

KEEP OUT OF REACH OF CHILDREN.

HARMFUL IF ABSORBED THROUGH SKIN.

May be fatal if swallowed.

Avoid contact with the skin, eyes and clothing.

Wash thoroughly after handling.

16. Other Information

SDS Prepared by:

BASF NA Product Regulations

SDS Prepared on: 2017/02/15

We support worldwide Responsible Care® initiatives. We value the health and safety of our employees, customers, suppliers and neighbors, and the protection of the environment. Our commitment to Responsible Care is integral to conducting our business and operating our facilities in a safe and environmentally responsible fashion, supporting our customers and suppliers in ensuring the safe and environmentally sound handling of our products, and minimizing the impact of our

Safety Data Sheet

VARISTO

Revision date : 2017/02/15
Version: 3.1

Page: 11/11
(30617892/SDS_CPA_US/EN)

operations on society and the environment during production, storage, transport, use and disposal of our products.

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