

Safety Data Sheet Opus

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1. Identification

Product identifier used on the label

Opus

Recommended use of the chemical and restriction on use

Recommended use*: crop protection product, fungicide

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

24 Hour Emergency Response Information

CHEMTREC: 1-800-424-9300

BASF HOTLINE: 1-800-832-HELP (4357)

Other means of identification

Substance number: 24360

2. Hazards Identification

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

Classification of the product

Acute Tox. 4 (Inhalation - mist) Acute toxicity

Skin Corr./Irrit. 2 Skin corrosion/irritation

Carc. 2 Carcinogenicity
Repr. 2 (fertility) Reproductive toxicity
Repr. 2 (unborn child) Reproductive toxicity

Repr. 2 (unborn child) Reproductive toxicity Asp. Tox. 1 Aspiration hazard

Aquatic Acute 1 Hazardous to the aquatic environment - acute

^{*} 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.

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Aquatic Chronic

Hazardous to the aquatic environment - chronic

Label elements

Pictogram:





Signal Word: Danger

Hazard Statement:

H315 Causes skin irritation. H332 Harmful if inhaled.

H304 May be fatal if swallowed and enters airways.

H351 Suspected of causing cancer.

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H361 Suspected of damaging fertility. Suspected of damaging the unborn

child.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

Precautionary Statements (Prevention):

P280 Wear protective gloves, protective clothing and eye protection or face

protection.

P271 Use only outdoors or in a well-ventilated area.

P273 Avoid release to the environment.
P201 Obtain special instructions before use.

P260 Do not breathe mist or vapour.

P202 Do not handle until all safety precautions have been read and

understood.

P264 Wash contaminated body parts thoroughly after handling.

Precautionary Statements (Response):

P312 Call a POISON CENTER or physician if you feel unwell.

P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for

breathing

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or physician.

P308 + P313 IF exposed or concerned: Get medical attention. P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

P391 Collect spillage.

P332 + P313 If skin irritation occurs: Get medical attention.

P331 Do NOT induce vomiting.

P362 + P364 Take off contaminated clothing and wash it before reuse.

Precautionary Statements (Storage): P405 Store locked up.

Precautionary Statements (Disposal):

P501 Dispose of contents/container in accordance with local regulations.

Hazards not otherwise classified

Labeling of special preparations (GHS):

Product contains the following components and may cause an allergic skin reaction: mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)

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The substance may cause sensitization of the skin in particularly sensitive individuals. Based on our experience and the information available, no adverse health effects are expected if handled as recommended with suitable precautions for designated uses.

3. Composition / Information on Ingredients

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

Epoxiconazole

CAS Number: 133855-98-8 Content (W/W): 11.96 % Synonym: No data available.

Alcohols, C16-18, ethoxylated propoxylated

CAS Number: 68002-96-0 Content (W/W): 20.0 - 25.0% Synonym: No data available.

solvent naphtha

CAS Number: 64742-94-5 Content (W/W): 10.0 - 15.0%

Synonym: Solvent naphtha, petroleum, heavy arom.

Naphthalene, 2-methyl-

CAS Number: 91-57-6 Content (W/W): 3.0 - < 5.0% Synonym: No data available.

Naphthalene, 1-methyl-

CAS Number: 90-12-0 Content (W/W): 1.0 - 3.0% Synonym: No data available.

mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)

CAS Number: 55965-84-9 Content (W/W): < 0.1%

Synonym: 5-Chloro-2-methyl-3(2H)-isothiazolone mixt. with 2-methyl-3(2H)-

isothiazolone

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.

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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: Information, i.e. additional information on symptoms and effects may be included in the GHS labeling phrases available in Section 2 and in the Toxicological assessments available 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, foam, dry powder, carbon dioxide

Unsuitable extinguishing media for safety reasons: water jet

Special hazards arising from the substance or mixture

Hazards during fire-fighting:

carbon monoxide, Hydrogen chloride, hydrogen fluoride, carbon dioxide, nitrogen oxides, halogenated compounds, sulfur 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 drains/surface waters/groundwater. Do not discharge into the subsoil/soil.

Methods and material for containment and cleaning up

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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

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. Provide good ventilation of working area (local exhaust ventilation if necessary). Keep away from sources of ignition - No smoking. Keep container tightly sealed. Protect against heat. Protect contents from the effects of light. Protect from air. 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. 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: 30 °C

The packed product must be protected against exceeding the indicated temperature.

8. Exposure Controls/Personal Protection

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

Components with occupational exposure limits

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solvent naphtha	ACGIH, US:	TWA value 200 mg/m3 Non-aerosol (total hydrocarbon vapor); Application restricted to conditions in which there are negligible aerosol exposures.
	ACGIH, US:	Skin Designation Non-aerosol (total hydrocarbon vapor); Danger of cutaneous absorption
	ACGIH, US:	Skin Designation Non-aerosol (total hydrocarbon vapor); Danger of cutaneous absorption
	ACGIH, US:	TWA value 200 mg/m3 Non-aerosol (total hydrocarbon vapor); Application restricted to conditions in which there are negligible aerosol exposures.
Epoxiconazole	TWA value 0.3 mg/m3 Respirable dust;	
Naphthalene, 1-methyl-	ACGIH, US: ACGIH, US:	TWA value 0.5 ppm; Skin Designation; Danger of cutaneous absorption
Naphthalene, 2-methyl-	ACGIH, US: ACGIH, US:	TWA value 0.5 ppm; Skin Designation; The substance can be absorbed through the skin.
	ACGIH, US:	Skin Designation; Danger of cutaneous absorption

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) TC23C Chemical/Mechanical type filter system to remove a combination of particles, gas and vapours. 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.

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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: characteristic, of hydrocarbons

Odour threshold: Not determined since harmful by inhalation.

Colour: pale beige pH value: approx. 5.5 - 7.5

(20°C)

(measured with the undiluted

substance)

crystallization approx. -11.5 °C

temperature:

approx. 100 °C Boiling range:

(1,013.25 hPa)

Information applies to the solvent.

Flash point: No flash point - Measurement made (Directive 92/69/EEC, A.9)

up to the boiling point.

not applicable 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.

approx. 420 °C Autoignition: (Directive

84/449/EEC, A.15)

Vapour pressure: approx. 23.4 hPa

(20°C)

Information applies to the solvent.

Density: approx. 1.05 g/cm3 (Directive

> (20°C) 92/69/EEC, A.3)

Vapour density: not applicable Partitioning coefficient nnot applicable

octanol/water (log Pow):

Thermal decomposition: No decomposition if stored and handled as

prescribed/indicated.

approx. 72.9 mPa.s (OECD 114) Viscosity, dynamic:

(40°C)

70.3 mm2/s (OECD 114) Viscosity, kinematic:

(40°C)

Solubility in water: dispersible not applicable Evaporation rate:

Other Information: If necessary, information on other physical and chemical

parameters is indicated in this section.

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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

See SDS section 7 - Handling and storage.

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:

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: Of moderate toxicity after short-term inhalation. Virtually nontoxic after a single ingestion. Virtually nontoxic after a single skin contact.

Oral

Type of value: LD50 Species: rat (male/female)

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

No mortality was observed.

Inhalation

Type of value: LC50 Species: rat (male/female)

Value: 3.25 mg/l (OECD Guideline 403)

Exposure time: 4 h An aerosol was tested.

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Dermal

Type of value: LD50 Species: rat (male/female)

Value: > 4,000 mg/kg (OECD Guideline 402)

No mortality was observed.

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: Skin contact causes irritation. Not irritating to the eyes.

<u>Skin</u>

Species: rabbit Result: 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.

modified 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: Epoxiconazole

Assessment of repeated dose toxicity: Repeated exposure to large quantities may affect certain organs.

Information on: mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)

Assessment of repeated dose toxicity: After repeated exposure the prominent effect is local irritation. Based on available data, the classification criteria are not met.

Genetic toxicity

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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.

Information on: Epoxiconazole

Assessment of carcinogenicity: Indication of possible carcinogenic effect in animal tests.

Reproductive toxicity

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

Information on: Epoxiconazole

Assessment of reproduction toxicity: The results of animal studies suggest 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.

Information on: Epoxiconazole

Assessment of teratogenicity: Indications of possible developmental toxicity/teratogenicity were seen

in animal studies.

Other Information

Misuse can be harmful to health.

12. Ecological Information

Toxicity

Aquatic toxicity

Assessment of aquatic toxicity:

Very toxic to aquatic life with long lasting effects.

The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Toxicity to fish

LC50 (96 h) 0.42 mg/l, Oncorhynchus mykiss (OECD 203; ISO 7346; 84/449/EEC, C.1, static)

Aquatic invertebrates

EC50 (48 h) 3.1 mg/l, Daphnia magna (OECD Guideline 202, part 1, static)

Aquatic plants

EC50 (72 h) 1.52 mg/l (growth rate), Pseudokirchneriella subcapitata (OECD Guideline 201, static)

EC10 (72 h) 0.0072 mg/l (growth rate), Pseudokirchneriella subcapitata (OECD Guideline 201, static)

Persistence and degradability

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Assessment biodegradation and elimination (H2O)

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

Assessment biodegradation and elimination (H2O)

Information on: Epoxiconazole

Not readily biodegradable (by OECD criteria).

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: Epoxiconazole

Bioconcentration factor: 59 - 70, Oncorhynchus mykiss (OECD-Guideline 305)

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: Epoxiconazole

Following exposure to soil, adsorption to solid soil particles is probable, therefore contamination of groundwater is not expected.

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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.

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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 FATTY ALCOHOL ALCOXYLATE, SOLVENT

NAPHTHA, EPOXICONAZOLE)

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 FATTY ALCOHOL ALCOXYLATE, SOLVENT

NAPHTHA, EPOXICONAZOLE)

Further information

Product may be shipped as non-hazardous in suitable packages containing a net quantity of 5 L or less under the provisions of various regulatory agencies: ADR, RID, ADN: Special Provision 375; IMDG: 2.10.2.7; IATA: A197; TDG: Special Provision 99(2); 49CFR: §171.4 (c) (2) and also the Special Provision 375 in Appendix B which is regulated in China "Regulations Concerning Road Transportation of Dangerous Goods Part 3: Index of dangerous goods name and transportation requirements" (JT/T 617.3)

15. Regulatory Information

Federal Regulations

Registration status:

Crop Protection TSCA, US released / exempt

Chemical TSCA, US blocked / not listed

EPCRA 311/312 (Hazard categories): Refer to SDS section 2 for GHS hazard classes applicable for this product.

EPCRA 313:

<u>CAS Number</u> <u>Chemical name</u>

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91-20-3 naphthalene

Safe Drinking Water & Toxic Enforcement Act, CA Prop. 65:

WARNING: This product can expose you to chemicals including ETHYLENE OXIDE, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, go to www.P65Warnings.ca.gov.

16. Other Information

SDS Prepared by:

BASF NA Product Regulations SDS Prepared on: 2022/03/15

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

IMPORTANT: WHILE THE DESCRIPTIONS, DESIGNS, DATA AND INFORMATION CONTAINED HEREIN ARE PRESENTED IN GOOD FAITH AND BELIEVED TO BE ACCURATE, IT IS PROVIDED FOR YOUR GUIDANCE ONLY. BECAUSE MANY FACTORS MAY AFFECT PROCESSING OR APPLICATION/USE, WE RECOMMEND THAT YOU MAKE TESTS TO DETERMINE THE SUITABILITY OF A PRODUCT FOR YOUR PARTICULAR PURPOSE PRIOR TO USE. NO WARRANTIES OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE MADE REGARDING PRODUCTS DESCRIBED OR DESIGNS, DATA OR INFORMATION SET FORTH, OR THAT THE PRODUCTS, DESIGNS, DATA OR INFORMATION MAY BE USED WITHOUT INFRINGING THE INTELLECTUAL PROPERTY RIGHTS OF OTHERS. IN NO CASE SHALL THE DESCRIPTIONS, INFORMATION, DATA OR DESIGNS PROVIDED BE CONSIDERED A PART OF OUR TERMS AND CONDITIONS OF SALE. FURTHER, YOU EXPRESSLY UNDERSTAND AND AGREE THAT THE DESCRIPTIONS, DESIGNS, DATA, AND INFORMATION FURNISHED BY OUR COMPANY HEREUNDER ARE GIVEN GRATIS AND WE ASSUME NO OBLIGATION OR LIABILITY FOR THE DESCRIPTION, DESIGNS, DATA AND INFORMATION GIVEN OR RESULTS OBTAINED, ALL SUCH BEING GIVEN AND ACCEPTED AT YOUR RISK. **END OF DATA SHEET**