

SAFETY DATA SHEET



RONSTAR® FLO HERBICIDE

Version 2.0 / USA
102000028077

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Revision Date: 09/29/2021
Print Date: 09/30/2021

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product identifier

Trade name RONSTAR® FLO HERBICIDE
Product code (UVP) 80533683
SDS Number 102000028077
EPA Registration No. 432-1465

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

Use Herbicide
Restrictions on use See product label for restrictions.

Information on supplier

Supplier Bayer Environmental Science
A division of Bayer CropScience LP
5000 Centregreen Way, Suite 400
Cary, NC 27513
USA
Responsible Department Email: SDSINFO.BCS-NA@bayer.com
Emergency telephone no.
Emergency Telephone Number (24hr/ 7 days) 1-800-334-7577
Product Information Telephone Number 1-800-331-2867

SECTION 2: HAZARDS IDENTIFICATION

Classification in accordance with regulation HCS 29CFR §1910.1200
Acute toxicity(Inhalation): Category 4

Labelling in accordance with regulation HCS 29CFR §1910.1200



Signal word: Warning

Hazard statements

Harmful if inhaled.

Precautionary statements

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Avoid breathing mist/ vapours/ spray.
Use only outdoors or in a well-ventilated area.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
Call a POISON CENTER/doctor/physician if you feel unwell.

Hazards Not Otherwise Classified (HNOC)

No physical hazards not otherwise classified.
No health hazards not otherwise classified.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Component Name	CAS-No.	Concentration % by weight
oxadiazon	19666-30-9	34.1

SECTION 4: FIRST AID MEASURES

Description of first aid measures

General advice	When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment.
Inhalation	Move to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a physician or poison control center immediately.
Skin contact	Take off contaminated clothing and shoes immediately. Wash off immediately with plenty of water for at least 15 minutes. Call a physician or poison control center immediately.
Eye contact	Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a physician or poison control center immediately.
Ingestion	Call a physician or poison control center immediately. Rinse out mouth and give water in small sips to drink. DO NOT induce vomiting unless directed to do so by a physician or poison control center. Never give anything by mouth to an unconscious person. Do not leave victim unattended.

Most important symptoms and effects, both acute and delayed

Symptoms To date no symptoms are known.

Indication of any immediate medical attention and special treatment needed

Treatment Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended.

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SECTION 5: FIREFIGHTING MEASURES

Extinguishing media

Suitable Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable High volume water jet

Special hazards arising from the substance or mixture Dangerous gases are evolved in the event of a fire.

Advice for firefighters

Special protective equipment for firefighters Firefighters should wear NIOSH approved self-contained breathing apparatus and full protective clothing.

Further information Keep out of smoke. Fight fire from upwind position. Avoid contact with spilled product or contaminated surfaces. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses.

Flash point No data available

Auto-ignition temperature No data available

Lower explosion limit No data available

Upper explosion limit No data available

Explosivity No data available

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Precautions Isolate hazard area. Keep unauthorized people away. Avoid contact with spilled product or contaminated surfaces.

Methods and materials for containment and cleaning up

Methods for cleaning up Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Collect and transfer the product into a properly labelled and tightly closed container. Clean contaminated floors and objects thoroughly, observing environmental regulations.

Additional advice Use personal protective equipment. If the product is accidentally spilled, do not allow to enter soil, waterways or waste water canal. Do not allow product to contact non-target plants.

Reference to other sections Information regarding safe handling, see section 7.
Information regarding personal protective equipment, see section 8.
Information regarding waste disposal, see section 13.

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SECTION 7: HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Handle and open container in a manner as to prevent spillage. Use only in area provided with appropriate exhaust ventilation.

Hygiene measures Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, using the toilet or applying cosmetics. Smoking, eating and drinking should be prohibited in the application area.
Remove Personal Protective Equipment (PPE) immediately after handling this product. Remove soiled clothing immediately and clean thoroughly before using again. Wash thoroughly and put on clean clothing.

Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers Store in original container and out of the reach of children, preferably in a locked storage area. Store in a cool, dry place and in such a manner as to prevent cross contamination with other crop protection products, fertilizers, food, and feed. Protect from freezing.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Components	CAS-No.	Control parameters	Update	Basis
oxadiazon	19666-30-9	0.3 mg/m ³ (TWA)		OES BCS*

*OES BCS: Internal Bayer AG, Crop Science Division "Occupational Exposure Standard"

Exposure controls

Personal protective equipment

In normal use and handling conditions please refer to the label and/or leaflet. In all other cases the following recommendations would apply.

Respiratory protection When respirators are required, select NIOSH approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industry recommendations.

Hand protection Chemical-resistant gloves (barrier laminate, butyl rubber, nitrile rubber or Viton)

Eye protection Safety glasses with side-shields

Skin and body protection Wear long-sleeved shirt and long pants and shoes plus socks.

General protective measures Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and warm/tepid water.

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Keep and wash PPE separately from other laundry.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Form	suspension
Colour	beige to yellow
Odour	amine-like
Odour Threshold	No data available
pH	3.5 - 5.5 (100 %) (23 °C)
Melting point/range	No data available
Boiling Point	No data available
Flash point	No data available
Flammability	No data available
Auto-ignition temperature	No data available
Thermal decomposition	No data available
Minimum ignition energy	No data available
Self-accelarating decomposition temperature (SADT)	No data available
Upper explosion limit	No data available
Lower explosion limit	No data available
Vapour pressure	No data available
Evaporation rate	No data available
Relative vapour density	No data available
Relative density	No data available
Density	1.09 g/cm ³ (20 °C)
Water solubility	dispersible
Partition coefficient: n-octanol/water	No data available
Viscosity, dynamic	220 - 400 mPa.s (20 °C) Velocity gradient 20 /s 100 - 200 mPa.s (20 °C) Velocity gradient 100 /s
Viscosity, kinematic	No data available
Oxidizing properties	No data available

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Explosivity No data available

SECTION 10: STABILITY AND REACTIVITY

Reactivity Stable under normal conditions.

Chemical stability Stable under recommended storage conditions.

Possibility of hazardous reactions No dangerous reaction known under conditions of normal use.

Conditions to avoid Extremes of temperature and direct sunlight.

Incompatible materials No incompatible materials known.

Hazardous decomposition products No decomposition products expected under normal conditions of use.

SECTION 11: TOXICOLOGICAL INFORMATION

Exposure routes Eye contact, Skin contact, Ingestion, Inhalation

Immediate Effects

Eye Causes moderate eye irritation.

Skin May cause slight irritation. Harmful if absorbed through skin.

Ingestion Harmful if swallowed.

Inhalation May cause irritation of the mucous membranes.

Information on toxicological effects

Acute oral toxicity LD50 (female Rat) > 2,000 mg/kg

Acute inhalation toxicity LC50 (Rat) > 2.31 mg/l
Exposure time: 4 h
Determined in the form of liquid aerosol.
highest concentration tested
No deaths

Acute dermal toxicity LD50 (Rat) > 2,000 mg/kg

Skin corrosion/irritation Slight irritant effect - does not require labelling. (Rabbit)

Serious eye damage/eye irritation Mild eye irritation. (Rabbit)

Respiratory or skin sensitisation Skin: Non-sensitizing. (Guinea pig)
OECD Test Guideline 406, Buehler test

Assessment STOT Specific target organ toxicity – single exposure

Oxadiazon: Based on available data, the classification criteria are not met.

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Assessment STOT Specific target organ toxicity – repeated exposure

Oxadiazon caused specific target organ toxicity in experimental animal studies in the following organ(s): Liver, Blood. The observed effects do not appear to be relevant for humans.

Assessment mutagenicity

Oxadiazon was not mutagenic or genotoxic based on the overall weight of evidence in a battery of in vitro and in vivo tests.

Assessment carcinogenicity

Oxadiazon caused at high dose levels an increased incidence of tumours in the following organ(s): Liver. The mechanism that triggers tumours in rodents and the type of tumours observed are not relevant to humans.

ACGIH

None.

NTP

None.

IARC

None.

OSHA

None.

Assessment toxicity to reproduction

Oxadiazon caused reproduction toxicity in a two-generation study in rats only at dose levels also toxic to the parent animals. The reproduction toxicity seen with Oxadiazon is related to parental toxicity.

Assessment developmental toxicity

Oxadiazon caused developmental toxicity only at dose levels toxic to the dams. The developmental effects seen with Oxadiazon are related to maternal toxicity.

Aspiration hazard

Based on available data, the classification criteria are not met.

Further information

Only acute toxicity studies have been performed on the formulated product.
The non-acute information pertains to the active ingredient(s).

SECTION 12: ECOLOGICAL INFORMATION

Toxicity to fish

LC50 (Cyprinodon variegatus (sheepshead minnow)) 1.5 mg/l
Exposure time: 96 h
The value mentioned relates to the active ingredient oxadiazon.

LC50 (Lepomis macrochirus (Bluegill sunfish)) 1.2 mg/l
Exposure time: 96 h

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	The value mentioned relates to the active ingredient oxadiazon. LC50 (Oncorhynchus mykiss (rainbow trout)) 1.2 mg/l Exposure time: 96 h The value mentioned relates to the active ingredient oxadiazon.
Toxicity to aquatic invertebrates	EC50 (Daphnia magna (Water flea)) > 2.4 mg/l Exposure time: 48 h The value mentioned relates to the active ingredient oxadiazon.
Toxicity to aquatic plants	EC50 (Desmodesmus subspicatus (green algae)) 0.00423 mg/l Growth rate; Exposure time: 120 h The value mentioned relates to the active ingredient oxadiazon. EC50 (Desmodesmus subspicatus (green algae)) 0.0056 mg/l Growth rate; Exposure time: 72 h The value mentioned relates to the active ingredient oxadiazon.
Biodegradability	Oxadiazon: Not rapidly biodegradable
Koc	Oxadiazon: Koc: 1294
Bioaccumulation	Oxadiazon: Bioconcentration factor (BCF) 243 Does not bioaccumulate.
Mobility in soil	Oxadiazon: Slightly mobile in soils
Results of PBT and vPvB assessment	
PBT and vPvB assessment	Oxadiazon: This substance is not considered to be persistent, bioaccumulative and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulative (vPvB).
Environmental precautions	Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water. Do not apply when weather conditions favor runoff or drift. Apply this product as specified on the label.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

Product	Dispose in accordance with all local, state/provincial and federal regulations.
Contaminated packaging	Consult state and local regulations regarding the proper disposal of container. Follow advice on product label and/or leaflet.

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RCRA Information

Characterization and proper disposal of this material as a special or hazardous waste is dependent upon Federal, State and local laws and are the user's responsibility. RCRA classification may apply.

SECTION 14: TRANSPORT INFORMATION

49CFR Not dangerous goods / not hazardous material

IMDG

UN number **3082**
Class **9**
Packaging group **III**
Marine pollutant **YES**
Proper shipping name **ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (OXADIAZON SOLUTION)**

IATA

UN number **3082**
Class **9**
Packaging group **III**
Environm. Hazardous Mark **YES**
Proper shipping name **ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (OXADIAZON SOLUTION)**

This transportation information is not intended to convey all specific regulatory information relating to this product. It does not address regulatory variations due to package size or special transportation requirements.

Freight Classification: **INSECTICIDES OR FUNGICIDES, N.O.I., OTHER THAN POISON**

SECTION 15: REGULATORY INFORMATION

EPA Registration No. 432-1465

US Federal Regulations

TSCA list

Water 7732-18-5
1,2-Propanediol 57-55-6

US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D)

No export notification needs to be made.

SARA Title III - Section 302 - Notification and Information

Not applicable.

SARA Title III - Section 313 - Toxic Chemical Release Reporting

Yes

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US States Regulatory Reporting CA Prop65

This product does not contain any substances known to the State of California to cause cancer.

WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

oxadiazon	19666-30-9	Carcinogenic.
oxadiazon	19666-30-9	Developmental toxin.

US State Right-To-Know Ingredients

oxadiazon	19666-30-9	NJ
1,2-Propanediol	57-55-6	MN, RI

Environmental CERCLA

None.

Clean Water Section 307(a)(1)

None.

Safe Drinking Water Act Maximum Contaminant Levels

None.

EPA/FIFRA Information:

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information required on the pesticide label:

Signal word: Caution!

Hazard statements: Harmful if swallowed or absorbed through skin.
Causes moderate eye irritation.

SECTION 16: OTHER INFORMATION

Abbreviations and acronyms

49CFR	Code of Federal Regulations, Title 49
ACGIH	US. ACGIH Threshold Limit Values
ATE	Acute toxicity estimate
CAS-Nr.	Chemical Abstracts Service number
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
EINECS	European inventory of existing commercial substances
ELINCS	European list of notified chemical substances
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
N.O.S.	Not otherwise specified

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NTP	US. National Toxicology Program (NTP) Report on Carcinogens
OECD	Organization for Economic Co-operation and Development
TDG	Transportation of Dangerous Goods
TWA	Time weighted average
UN	United Nations
WHO	World health organisation

NFPA 704 (National Fire Protection Association):

Health - 1 Flammability - 1 Instability - 0 Others - none

HMIS (Hazardous Materials Identification System, based on the Third Edition Ratings Guide)

Health - 1 Flammability - 1 Physical Hazard - 0 PPE -

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard

Reason for Revision: The following sections have been revised: Section 2: Hazards Identification. Section 3: Composition / Information on Ingredients. Section 8: Exposure Controls / Personal Protection. Section 11: Toxicological Information. Section 12. Ecological information. Section 15: Regulatory information. Reviewed and updated for general editorial purposes.

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Changes since the last version are highlighted in the margin. This version replaces all previous versions.

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