

SAFETY DATA SHEET



ALTUS®

Version 4.0 / USA
102000021884

1/11
Revision Date: 05/21/2020
Print Date: 05/22/2020

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

Product identifier

Trade name ALTUS®
Product code (UVP) 79718845, 86300257
SDS Number 102000021884
EPA Registration No. 432-1575

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

Use Insecticide
Restrictions on use See product label for restrictions.
Information on supplier
Supplier Bayer Environmental Science
A division of Bayer CropScience LP
500 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

Skin sensitisation: Category 1
Acute toxicity(Inhalation): Category 4
Eye irritation: Category 2B
Specific target organ toxicity - repeated exposure: Category 2

Labelling in accordance with regulation HCS 29CFR §1910.1200



Signal word: Warning

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Hazard statements

May cause an allergic skin reaction.
Harmful if inhaled.
Causes eye irritation.
May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

Do not breathe spray.
Wear protective gloves.
Contaminated work clothing should not be allowed out of the workplace.
Use only outdoors or in a well-ventilated area.
Wash thoroughly after handling.
IF ON SKIN: Wash with plenty of water/ soap.
If skin irritation or rash occurs: Get medical advice/ attention.
Specific treatment (see supplemental first aid instructions on this label).
Wash contaminated clothing before reuse.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
Call a POISON CENTER/doctor/physician if you feel unwell.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/ attention.
Dispose of contents/container in accordance with local regulation.

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 |
|---|-------------|---------------------------|
| Flupyradifurone | 951659-40-8 | 17.09 |
| Propylene carbonate | 108-32-7 | 42.8 |
| Oxirane, methyl-, polymer with oxirane, monobutyl ether | 9038-95-3 | 40.0 |

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.

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|---|---|
| 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. DO NOT induce vomiting unless directed to do so by a physician or poison control center. Rinse out mouth and give water in small sips to drink. 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. |

SECTION 5: FIREFIGHTING MEASURES

Extinguishing media

| | |
|-------------------|--|
| Suitable | Water spray, Carbon dioxide (CO ₂), Foam, Sand |
| Unsuitable | High volume water jet |

Special hazards arising from the substance or mixture In the event of fire the following may be released: Hydrogen chloride (HCl), Hydrogen cyanide (hydrocyanic acid), Hydrogen fluoride, Carbon monoxide (CO), Nitrogen oxides (NO_x)

Advice for firefighters

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

Further information Contain the spread of the fire-fighting media. Do not allow run-off from fire fighting to enter drains or water courses.

Keep out of smoke. Fight fire from upwind position. Cool closed containers exposed to fire with water spray.

| | |
|----------------------------------|---|
| Flash point | > 100 °C |
| Auto-ignition temperature | 420 °C / 788 °F |
| Lower explosion limit | No data available |
| Upper explosion limit | No data available |
| Explosivity | Not explosive 92/69/EEC, A.14 / OECD 113 |

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SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Precautions Keep unauthorized people away. Isolate hazard area. 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.

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.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling

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

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.
Remove Personal Protective Equipment (PPE) immediately after handling this product. Before removing gloves clean them with soap and water. 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 a cool, dry place and in such a manner as to prevent cross contamination with other crop protection products, fertilizers, food, and feed. Store in original container and out of the reach of children, preferably in a locked storage area. Protect from freezing. Keep away from direct sunlight.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

| Components | CAS-No. | Control parameters | Update | Basis |
|-----------------|-------------|--------------------------------|--------|----------|
| Flupyradifurone | 951659-40-8 | 2.2 mg/m ³ (TWA) | | OES BCS* |

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*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 nitrile rubber gloves |
| Eye protection | Tightly fitting safety goggles |
| 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. Keep and wash PPE separately from other laundry. |

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|--|---|
| Appearance | light yellow to brown, shades of orange |
| Physical State | Liquid slightly turbid |
| Odor | characteristic |
| Odour Threshold | No data available |
| pH | 5.0 - 7.0 (1 %) (23 °C) (deionized water) |
| Viscosity, kinematic | No data available |
| Vapor Pressure | No data available |
| Vapor Density (Air = 1) | No data available |
| Density | ca. 1.17 g/cm ³ (20 °C) |
| Evaporation rate | No data available |
| Boiling Point | No data available |
| Melting / Freezing Point | No data available |
| Water solubility | soluble |
| Minimum Ignition Energy | Not applicable |
| Decomposition temperature | Stable under normal conditions. |
| Self-accelerating decomposition temperature | No data available |

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| | |
|---|--|
| Partition coefficient: n-octanol/water | No data available |
| Flammability | No data available |
| Oxidizing properties | No oxidizing properties |
| Flash point | > 100 °C |
| Auto-ignition temperature | 420 °C / 788 °F |
| Lower explosion limit | No data available |
| Upper explosion limit | No data available |
| Explosivity | Not explosive 92/69/EEC, A.14 / OECD 113 |
| Particle size | No data available |
| Other information | Further safety related physical-chemical data are not known. |

SECTION 10: STABILITY AND REACTIVITY

Reactivity

| | |
|---|--|
| Thermal decomposition | Stable under normal conditions. |
| Chemical stability | Stable under recommended storage conditions. |
| Possibility of hazardous reactions | No hazardous reactions when stored and handled according to prescribed instructions. |
| 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 | Ingestion, Skin contact, Eye contact |
| Immediate Effects | |
| Eye | Moderate eye irritation. |
| Skin | Harmful if absorbed through skin. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. |
| Ingestion | Harmful if swallowed. |

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Information on toxicological effects

| | |
|--|--|
| Acute oral toxicity | LD50 (female Rat) > 2,000 mg/kg |
| Acute inhalation toxicity | LC50 (female Rat) ca. 3.496 mg/l Exposure time: 4 h Determined in the form of a respirable aerosol. |
| | LC50 (female Rat) ca. 13.984 mg/l Exposure time: 1 h Determined in the form of a respirable aerosol. Extrapolated from the 4 hr LC50. |
| Acute dermal toxicity | LD50 (male/female combined Rat) > 2,000 mg/kg |
| Skin corrosion/irritation | No skin irritation (Rabbit) |
| Serious eye damage/eye irritation | Irritating to eyes. (Rabbit) |
| Respiratory or skin sensitisation | Skin: Sensitising (Mouse) OECD Test Guideline 429, local lymph node assay (LLNA) |

Assessment STOT Specific target organ toxicity – single exposure

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

Assessment STOT Specific target organ toxicity – repeated exposure

Flupyradifurone: May cause damage to organs (muscle) through prolonged or repeated exposure.

Assessment mutagenicity

Flupyradifurone was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.

Assessment carcinogenicity

Flupyradifurone was not carcinogenic in lifetime feeding studies in rats and mice.

ACGIH

None.

NTP

None.

IARC

None.

OSHA

None.

Assessment toxicity to reproduction

Flupyradifurone did not cause reproductive toxicity in a two-generation study in rats.

Assessment developmental toxicity

Flupyradifurone did not cause developmental toxicity in rats and rabbits.

Aspiration hazard

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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 (Oncorhynchus mykiss (rainbow trout)) > 100 mg/l Exposure time: 96 h |
| Toxicity to aquatic invertebrates | EC50 (Daphnia magna (Water flea)) 684 mg/l Exposure time: 48 h |
| Chronic toxicity to aquatic invertebrates | NOEC (Chironomus riparius (non-biting midge)): 0.0702 mg/l Exposure time: 28 d |
| Toxicity to aquatic plants | IC50 (Raphidocelis subcapitata (freshwater green alga)) > 250 mg/l Growth rate; Exposure time: 72 h |
| Biodegradability | Flupyradifurone: Not rapidly biodegradable |
| Koc | Flupyradifurone: Koc: 93 |
| Bioaccumulation | Flupyradifurone: Does not bioaccumulate. |
| Mobility in soil | Flupyradifurone: Moderately mobile in soils |
| Additional ecological information | No other effects to be mentioned. |
| 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. Drift and runoff from treated areas may be hazardous to aquatic organisms in adjacent sites. Apply this product as specified on the label. |

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

Product Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law.
If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

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| Contaminated packaging | Follow advice on product label and/or leaflet. Do not re-use empty containers. Consult state and local regulations regarding the proper disposal of container. |
| 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. (FLUPYRADIFURONE SOLUTION) |
| IATA | |
| UN number | 3082 |
| Class | 9 |
| Packaging group | III |
| Environm. Hazardous Mark | YES |
| Proper shipping name | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (FLUPYRADIFURONE 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. | 432-1575 |
| US Federal Regulations | |
| TSCA list | |
| Propylene carbonate | 108-32-7 |
| Oxirane, methyl-, polymer with oxirane, monobutyl ether | 9038-95-3 |

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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

None.

US States Regulatory Reporting

CA Prop65

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

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

US State Right-To-Know Ingredients

| | | |
|----------|----------|------------|
| Glutaral | 111-30-8 | CA, MN, RI |
|----------|----------|------------|

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.
Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

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 |
| NTP | US. National Toxicology Program (NTP) Report on Carcinogens |

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| 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 - 2 Flammability - 1 Instability - 0 Others - none

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

Health - 2 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 11: Toxicological Information. Section 15: Regulatory information. Reviewed and updated for general editorial purposes.

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