

SAFETY DATA SHEET



BETAMIX® β EC HERBICIDE

Version 3.0 / CDN
102000014215

1/11
Revision Date: 11/06/2018
Print Date: 11/06/2018

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

Product identifier

Trade name BETAMIX® β EC HERBICIDE

Product code (UVP) 05950634

SDS Number 102000014215

PCP Registration No. 28650

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 CropScience Inc
#200, 160 Quarry Park Blvd, SE
Calgary, Alberta T2C 3G3
Canada

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 1-888-283-6847

SECTION 2: HAZARDS IDENTIFICATION

Classified in accordance with Part 2 of the Hazardous Products Regulations

Eye irritation: Category 2B

Acute toxicity(Inhalation): Category 4

Specific target organ toxicity - single exposure: Category 3

Reproductive toxicity: Category 1B

Labelling in accordance with Part 3 of the Hazardous Products Regulations



Signal word: Danger

Hazard statements

Causes eye irritation.

Harmful if inhaled.

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May cause respiratory irritation.
May damage fertility or the unborn child.

Precautionary statements

Wash thoroughly after handling.
Avoid breathing mist/ vapours.
Use only outdoors or in a well-ventilated area.
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Wear protective gloves/ protective clothing/ eye protection/ face protection.
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.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
Call a POISON CENTER/doctor/physician if you feel unwell.
Store in a well-ventilated place. Keep container tightly closed.
Store locked up.
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
Desmedipham	13684-56-5	15.0
Phenmedipham	13684-63-4	15.0
N,N-Dimethyl decanamide	14433-76-2	44.5
Poly(oxy-1,2-ethanediyl), α-(2-propylheptyl)-ω-hydroxy-	160875-66-1	3.0
N-Methyl-2-pyrrolidone	872-50-4	2.5
Polyarylphenyl ether phosphate	90093-37-1	2.25

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. 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. There is no specific antidote.

SECTION 5: FIREFIGHTING MEASURES

Extinguishing media

Suitable	Carbon dioxide (CO ₂), Dry chemical, Water spray, Foam
Unsuitable	None known.

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. 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	> 100 °C
Auto-ignition temperature	No data available
Lower explosion limit	No data available
Upper explosion limit	No data available
Explosivity	Not applicable

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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. Contaminated soil may have to be removed and disposed.

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.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Handle and open container in a manner as to prevent spillage. Maintain exposure levels below the exposure limit through the use of general and local exhaust ventilation.

Advice on protection against fire and explosion Keep away from heat and sources of ignition.

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.

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SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Components	CAS-No.	Control parameters	Update	Basis
Desmedipham	13684-56-5	1.2 mg/m ³ (TWA)		OES BCS*
Phenmedipham	13684-63-4	1.5 mg/m ³ (TWA)		OES BCS*
N-Methyl-2-pyrrolidone	872-50-4	400 mg/m ³ (TWA)	11 2010	CAD ON OEL
N-Methyl-2-pyrrolidone	872-50-4	19 ppm (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
or
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	beige to brown
Physical State	Liquid clear
Odor	aromatic
Odour Threshold	No data available
pH	2.7 - 3.5 (5 %) (23 °C) (deionized water)
Vapor Pressure	No data available

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Vapor Density (Air = 1)	No data available
Density	1.02 g/cm ³ (20 °C)
Evaporation rate	No data available
Boiling Point	No data available
Melting / Freezing Point	No data available
Water solubility	emulsifiable
Minimum Ignition Energy	Not applicable
Decomposition temperature	No data available
Partition coefficient: n-octanol/water	Not applicable
Viscosity	No data available
Flash point	> 100 °C
Auto-ignition temperature	No data available
Lower explosion limit	No data available
Upper explosion limit	No data available
Explosivity	Not applicable

SECTION 10: STABILITY AND REACTIVITY

Reactivity

Thermal decomposition	No data available
Chemical stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	No hazardous reactions known.
Conditions to avoid	Extremes of temperature and direct sunlight.
Incompatible materials	No data available
Hazardous decomposition products	No decomposition products expected under normal conditions of use.

SECTION 11: TOXICOLOGICAL INFORMATION

Exposure routes	Eye contact, Skin contact, Inhalation, Ingestion
Immediate Effects	
Eye	Causes eye irritation.

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Skin May cause skin irritation.
Inhalation Harmful if inhaled. May cause respiratory tract irritation.

Information on toxicological effects

Acute oral toxicity LD50 (female Rat) > 2,000 mg/kg
Acute inhalation toxicity LC50 (male/female combined Rat) > 2.1 mg/l
Exposure time: 4 h
Determined in the form of liquid aerosol.
(actual)
Acute dermal toxicity LD50 (male/female combined Rat) > 2,000 mg/kg
Skin corrosion/irritation slight irritation (Rabbit)
Serious eye damage/eye irritation Moderate eye irritation. (Rabbit)
Respiratory or skin sensitisation Non-sensitizing. (Guinea pig)

Assessment STOT Specific target organ toxicity – repeated exposure

Desmedipham caused methaemoglobinaemia, haemolytic anaemia in animal studies. The observed effects do not appear to be relevant for humans.
Phenmedipham caused haemolytic anaemia, methaemoglobinaemia in animal studies. The observed effects do not appear to be relevant for humans.

Assessment mutagenicity

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

Assessment carcinogenicity

Desmedipham was not carcinogenic in lifetime feeding studies in rats and mice.
Phenmedipham was not carcinogenic in lifetime feeding studies in rats and mice.

ACGIH

None.

NTP

None.

IARC

None.

OSHA

None.

Assessment toxicity to reproduction

Desmedipham caused a reduced litter size and a reduced pup weight. The reproduction toxicity seen with Desmedipham is related to parental toxicity.

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Phenmedipham 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 Phenmedipham is related to parental toxicity.

Assessment developmental toxicity

Desmedipham caused developmental toxicity only at dose levels toxic to the dams. Desmedipham caused a delayed ossification of foetuses, an increased incidence of variations. The developmental effects seen with Desmedipham are related to maternal toxicity.

Phenmedipham caused developmental toxicity only at dose levels toxic to the dams. Phenmedipham caused a delayed ossification of foetuses. The developmental effects seen with Phenmedipham are related to maternal toxicity.

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)) 0.26 mg/l semi-static test; Exposure time: 96 h The value mentioned relates to the active ingredient desmedipham.
	LC50 (Oncorhynchus mykiss (rainbow trout)) ca. 3 mg/l Exposure time: 96 h The value mentioned relates to the active ingredient phenmedipham.
Toxicity to aquatic invertebrates	EC50 (Daphnia magna (Water flea)) 0.45 mg/l semi-static test; Exposure time: 48 h The value mentioned relates to the active ingredient desmedipham.
	EC50 (Daphnia magna (Water flea)) 0.5 mg/l flow-through test; Exposure time: 24 h The value mentioned relates to the active ingredient phenmedipham.
	EC50 (Daphnia magna (Water flea)) 6 mg/l Exposure time: 48 h The value mentioned relates to the active ingredient phenmedipham.
Toxicity to aquatic plants	IC50 (Raphidocelis subcapitata (freshwater green alga)) 0.056 mg/l Exposure time: 96 h The value mentioned relates to the active ingredient desmedipham.
	IC50 (Desmodesmus subspicatus (green algae)) 0.13 mg/l Exposure time: 96 h The value mentioned relates to the active ingredient phenmedipham.
Biodegradability	Desmedipham: Not rapidly biodegradable Phenmedipham: Not rapidly biodegradable

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Koc	Desmedipham: Koc: > 5000 Phenmedipham: Koc: 888
Bioaccumulation	Desmedipham: Bioconcentration factor (BCF) 157 Does not bioaccumulate. Phenmedipham: Bioconcentration factor (BCF) 165 Does not bioaccumulate.
Mobility in soil	Desmedipham: Immobile in soil Phenmedipham: Slightly mobile in soils
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. Drift and runoff from treated areas may be hazardous to aquatic organisms in adjacent sites. Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water. Apply this product as specified on the label.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

Product	Do not contaminate water, food, or feed by disposal. Dispose in accordance with all local, state/provincial and federal regulations. Follow advice on product label and/or leaflet.
Contaminated packaging	Triple rinse containers. Do not re-use empty containers. Puncture container to avoid re-use. Follow advice on product label and/or leaflet.

SECTION 14: TRANSPORT INFORMATION

TDG

UN number	3082
Labels	9
Packaging group	III
Marine pollutant	Marine pollutant
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (DESMEDIPHAM)

49CFR

UN number	3082
Class	9
Packaging group	III
Marine pollutant	Marine pollutant

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Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID,
N.O.S.
(DESMEDIPHAM)

IMDG

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

IATA

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

Further Information Exempt from regulation when transported by road or rail, in accordance with TDG Regulations 1.45.1. This exemption provides that this product does not require dangerous goods shipping documentation or safety marks when transported on land by road or rail.

Freight Classification: COMPOUNDS, TREE OR WEEDKILLING, N.O.I., other than poison; HAVING A DENSITY OF GREATER THAN 20 LBS. PER CUBIC FOOT

SECTION 15: REGULATORY INFORMATION

PCP Registration No. 28650

SECTION 16: OTHER INFORMATION

Abbreviations and acronyms

49CFR Code of Federal Regulations, Title 49
ACGIH US. ACGIH Threshold Limit Values
ATE Acute toxicity estimate

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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
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 - 2 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: Revised according to the current Canadian WHMIS standard (WHMIS 2015).

Prepared by the HSE Department of Bayer CropScience Inc. (306)-721-0310.

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