



BUCTRIL DS EC450

Version 2 / ZA
102000003821

1/10
Revision Date: 03.07.2017
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SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Trade name BUCTRIL DS EC450
Product code (UVP) 05945569

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

Use Herbicide

1.3 Details of the supplier of the safety data sheet

Supplier Bayer (Pty) Ltd.
27 Wrench Road, P.O. Box 143
1600 Isando
South Africa
Telephone +27 (011) 921 5911
Telefax +27 (011) 921 5766
Responsible Department QHSE - Nigel, South Africa
+27 (011) 365 8675 (during business hours only)

1.4 Emergency telephone no.

Emergency telephone no. +27 (0861) 555 777 (Western Cape Poisons Helpline)
Global Incident Response Hotline (24h) +1 (760) 476 3964 (Company 3E for Bayer AG, Crop Science Division)

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification in accordance with Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures, as amended.

Acute toxicity: Category 4
H302 Harmful if swallowed.
Aspiration hazard: Category 1
H304 May be fatal if swallowed and enters airways.
Carcinogenicity: Category 2
H351 Suspected of causing cancer.
Reproductive toxicity: Category 2
H361d Suspected of damaging the unborn child.
Acute aquatic toxicity: Category 1
H400 Very toxic to aquatic life.
Chronic aquatic toxicity: Category 1
H410 Very toxic to aquatic life with long lasting effects.

2.2 Label elements

Labelling in accordance with Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures, as amended.

Hazard label for supply/use required.



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Hazardous components which must be listed on the label:

- Bromoxynil octanoate, heptanoate mixed ester
- Solvent Naphtha (petroleum), heavy aromatic



Signal word: Danger

Hazard statements

- H302 Harmful if swallowed.
 H304 May be fatal if swallowed and enters airways.
 H351 Suspected of causing cancer.
 H361d Suspected of damaging the unborn child.
 H410 Very toxic to aquatic life with long lasting effects.
 EUH066 Repeated exposure may cause skin dryness or cracking.
 EUH208 Contains Bromoxynil octanoate, heptanoate mixed ester. May produce an allergic reaction.
 EUH401 To avoid risks to human health and the environment, comply with the instructions for use.

Precautionary statements

- P280 Wear protective gloves/ protective clothing/ eye protection.
 P308 + P311 IF exposed or concerned: Call a POISON CENTER/ doctor/ physician.
 P501 Dispose of contents/container in accordance with local regulation.

2.3 Other hazards

No other hazards known.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixtures

Chemical nature

Emulsifiable concentrate (EC)
Bromoxynil 450 g/l

Hazardous components

Hazard statements according to Regulation (EC) No. 1272/2008

Name	CAS-No. / EC-No. / REACH Reg. No.	Classification	Conc. [%]
		REGULATION (EC) No 1272/2008	
Bromoxynil octanoate, heptanoate mixed ester		Acute Tox. 3, H301 Acute Tox. 4, H332 Skin Sens. 1, H317 Repr. 2, H361d Aquatic Acute 1, H400 Aquatic Chronic 1, H410	38,54
2-Methylpropan-1-ol	78-83-1	Flam. Liq. 3, H226 STOT SE 3, H335 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H336	> 1,00 – < 5,00

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Tetrapropylene benzene sulfonate, calcium salt	11117-11-6	Acute Tox. 4, H312 Skin Irrit. 2, H315 Eye Dam. 1, H318 Aquatic Chronic 3, H412	> 1,00 – < 25,00
Ethoxylated-propoxylated alkylphenol	68891-11-2	Aquatic Chronic 4, H413	> 1,00 – < 25,00
Solvent Naphtha (petroleum), heavy aromatic	64742-94-5 01-2119451151-53-xxxx	Carc. 2, H351 Asp. Tox. 1, H304 Aquatic Chronic 2, H411	> 25,00

Further information

Bromoxynil octanoate, heptanoate mixed ester	M-Factor: 10 (acute)
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For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: FIRST AID MEASURES**4.1 Description of first aid measures**

General advice	Remove contaminated clothing immediately and dispose of safely.
Inhalation	Move the victim to fresh air and keep at rest. Call a physician or poison control center immediately.
Skin contact	Wash off thoroughly with plenty of soap and water, if available with polyethyleneglycol 400, subsequently rinse with water. Call a physician or poison control center immediately.
Eye contact	Wash off immediately with plenty of water for at least 15 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a physician or poison control center immediately.
Ingestion	Rinse out mouth and give water in small sips to drink. Do NOT induce vomiting. Keep patient warm and at rest. Risk of product entering the lungs on vomiting after ingestion. Call a physician or poison control center immediately.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms	Local:, Sensitisation, The product causes irritation of eyes, skin and mucous membranes. Systemic:, Tiredness, Thirst, Sweating, Anxiety, Hyperventilation, Tachycardia, Muscle rigidity, Hyperthermia
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4.3 Indication of any immediate medical attention and special treatment needed

Treatment	Local treatment: Initial treatment: symptomatic. Systemic treatment: Initial treatment: symptomatic. In case of ingestion gastric lavage should be considered in cases of significant ingestions only within the first 2 hours. However, the application of activated charcoal and sodium sulphate is always advisable. In case of hyperthermia physical cooling is advisable; in case of muscle rigidity muscle relaxants and mechanical ventilation may support in counteracting hyperthermia. There is no specific antidote.
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SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Unsuitable High volume water jet

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

5.3 Advice for firefighters

Special protective equipment for firefighters In the event of fire and/or explosion do not breathe fumes. In the event of fire, wear self-contained breathing apparatus.
Further information Contain the spread of the fire-fighting media. Do not allow run-off from fire fighting to enter drains or water courses.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Precautions Keep people away from and upwind of spill/leak. Avoid contact with spilled product or contaminated surfaces. When dealing with a spillage do not eat, drink or smoke. Use personal protective equipment.

6.2 Environmental precautions Do not allow to get into surface water, drains and ground water.

6.3 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). Keep in suitable, closed containers for disposal. Clean floors and contaminated objects with plenty of water.
Additional advice Check also for any local site procedures.

6.4 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

7.1 Precautions for safe handling

Advice on safe handling No specific precautions required when handling unopened packs/containers; follow relevant manual handling advice. Ensure adequate ventilation.

Advice on protection against fire and explosion Keep away from heat and sources of ignition. Vapours may form explosive mixture with air. Take measures to prevent the build up of electrostatic charge. Use only explosion-proof equipment.

Hygiene measures When using, do not eat, drink or smoke. Remove soiled clothing immediately and clean thoroughly before using again. Contaminated work clothing should not be allowed out of the workplace. Wash hands

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thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, using the toilet or applying cosmetics.
Wash hands immediately after work, if necessary take a shower.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers Store in a place accessible by authorized persons only. Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from freezing. Keep away from direct sunlight.

Advice on common storage Keep away from food, drink and animal feedingstuffs.

Suitable materials Coex EVOH (1000L IBC)

7.3 Specific end use(s) Refer to the label and/or leaflet.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**8.1 Control parameters**

Components	CAS-No.	Control parameters	Update	Basis
Bromoxynil octanoate	1689-99-2	0,21 mg/m ³ (SK-SEN)		OES BCS*
2-Methylpropan-1-ol	78-83-1	225 mg/m ³ /75 ppm (STEL)	1995	ZA REL
2-Methylpropan-1-ol	78-83-1	150 mg/m ³ /50 ppm (TWA)	1995	ZA REL

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

8.2 Exposure controls**Respiratory protection**

Wear respirator with an organic vapours and gas filter mask (protection factor 10) conforming to EN140 type A or equivalent. Respiratory protection should only be used to control residual risk of short duration activities, when all reasonably practicable steps have been taken to reduce exposure at source e.g. containment and/or local extract ventilation. Always follow respirator manufacturer's instructions regarding wearing and maintenance.

Hand protection

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.
Wash gloves when contaminated. Dispose of when contaminated inside, when perforated or when contamination on the outside cannot be removed. Wash hands frequently and always before eating, drinking, smoking or using the toilet.

Material	Nitrile rubber
Rate of permeability	> 480 min
Glove thickness	> 0,4 mm
Protective index	Class 6
Directive	Protective gloves complying with EN 374.

Eye protection

Wear goggles (conforming to EN166, Field of Use = 5 or equivalent).

Skin and body protection

Wear standard coveralls and Category 3 Type 6 suit.
If there is a risk of significant exposure, consider a higher protective

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type suit.

Wear two layers of clothing wherever possible. Polyester/cotton or cotton overalls should be worn under chemical protection suit and should be professionally laundered frequently.

If chemical protection suit is splashed, sprayed or significantly contaminated, decontaminate as far as possible, then carefully remove and dispose of as advised by manufacturer.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**9.1 Information on basic physical and chemical properties**

Form	clear, Liquid
Colour	brown
Flash point	118 °C
Density	ca. 1,22 g/cm ³ at 20 °C
Water solubility	miscible
Partition coefficient: n-octanol/water	Bromoxynil octanoate, heptanoate mixed ester: log Pow: > 5,4
9.2 Other information	Further safety related physical-chemical data are not known.

SECTION 10: STABILITY AND REACTIVITY**10.1 Reactivity****Thermal decomposition** Stable under normal conditions.**10.2 Chemical stability** Stable under recommended storage conditions.**10.3 Possibility of hazardous reactions** No hazardous reactions when stored and handled according to prescribed instructions.**10.4 Conditions to avoid** Extremes of temperature and direct sunlight.**10.5 Incompatible materials** Store only in the original container.**10.6 Hazardous decomposition products** No decomposition products expected under normal conditions of use.**SECTION 11: TOXICOLOGICAL INFORMATION****11.1 Information on toxicological effects****Acute oral toxicity** LD50 (Rat) 500 mg/kg
Test conducted with a similar formulation.**Acute inhalation toxicity** LC50 (Rat) > 5,0 mg/l
Test conducted with a similar formulation.**Acute dermal toxicity** LD50 (Rat) > 2.000 mg/kg
Test conducted with a similar formulation.**Skin irritation** No skin irritation (Rabbit)
Information given is based on data on the components and the toxicology



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of similar products.

Eye irritation

Slight irritant effect - does not require labelling. (Rabbit)
Test conducted with a similar formulation.

Sensitisation

Non-sensitizing. (Guinea pig)

Assessment STOT Specific target organ toxicity – repeated exposure

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

Assessment mutagenicity

Bromoxynil octanoate, heptanoate mixed ester was not mutagenic or genotoxic based on the overall weight of evidence in a battery of in vitro and in vivo tests.

Assessment carcinogenicity

Bromoxynil octanoate, heptanoate mixed ester caused at high dose levels an increased incidence of tumours in mice in the following organ(s): Liver. The mechanism of tumour formation is not considered to be relevant to man.

Assessment toxicity to reproduction

Bromoxynil octanoate, heptanoate mixed ester did not cause reproductive toxicity in a two-generation study in rats.

Assessment developmental toxicity

Bromoxynil octanoate, heptanoate mixed ester caused a delayed foetal growth, an increased incidence of non-specific malformations. Bromoxynil octanoate, heptanoate mixed ester caused developmental toxicity only at dose levels toxic to the dams.

Aspiration hazard

May be fatal if swallowed and enters airways.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Toxicity to fish

LC50 (Oncorhynchus mykiss (rainbow trout)) 0,029 mg/l
Exposure time: 96 h
The value mentioned relates to the active ingredient bromoxynil octanoate.

LC50 (Lepomis macrochirus (Bluegill sunfish)) 0,029 mg/l
Exposure time: 96 h
The value mentioned relates to the active ingredient bromoxynil heptanoate.

Toxicity to aquatic invertebrates

EC50 (Daphnia magna (Water flea)) 0,046 mg/l
Exposure time: 48 h
The value mentioned relates to the active ingredient bromoxynil octanoate.

EC50 (Daphnia magna (Water flea)) 0,031 mg/l
Exposure time: 48 h
The value mentioned relates to the active ingredient bromoxynil heptanoate.



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Toxicity to aquatic plants EC50 (Navicula pelliculosa (Freshwater diatom)) 0,043 mg/l
Exposure time: 120 h
The value mentioned relates to the active ingredient bromoxynil octanoate.

EC50 (Lemna gibba (gibbous duckweed)) 0,073 mg/l
The value mentioned relates to the active ingredient bromoxynil octanoate.

12.2 Persistence and degradability

Biodegradability Bromoxynil octanoate, heptanoate mixed ester:
Not rapidly biodegradable

Koc Bromoxynil octanoate: Koc: 630

12.3 Bioaccumulative potential

Bioaccumulation Bromoxynil octanoate: Bioconcentration factor (BCF) 230
Does not bioaccumulate.

12.4 Mobility in soil

Mobility in soil Bromoxynil octanoate, heptanoate mixed ester: Slightly mobile in soils

12.5 Results of PBT and vPvB assessment

PBT and vPvB assessment Bromoxynil octanoate, heptanoate mixed ester: 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).

12.6 Other adverse effects

Additional ecological information No other effects to be mentioned.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product In accordance with current regulations and, if necessary, after consultation with the site operator and/or with the responsible authority, the product may be taken to a waste disposal site or incineration plant.

Contaminated packaging Triple rinse containers.
Do not re-use empty containers.
Not completely emptied packagings should be disposed of as hazardous waste.

SECTION 14: TRANSPORT INFORMATION

SANS 10231

14.1 UN number	3082
14.2 Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (BROMOXYNIL OCTANOATE, HEPTANOATE SOLUTION)
14.3 Transport hazard class(es)	9
14.4 Packing group	III
14.5 Environm. Hazardous Mark	YES



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IMDG

14.1 UN number	3082
14.2 Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (BROMOXYNIL OCTANOATE, HEPTANOATE SOLUTION)
14.3 Transport hazard class(es)	9
14.4 Packing group	III
14.5 Marine pollutant	YES

IATA

14.1 UN number	3082
14.2 Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (BROMOXYNIL OCTANOATE, HEPTANOATE SOLUTION)
14.3 Transport hazard class(es)	9
14.4 Packing group	III
14.5 Environm. Hazardous Mark	YES

14.6 Special precautions for user

See sections 6 to 8 of this Safety Data Sheet.

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code

No transport in bulk according to the IBC Code.

SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Further information

WHO-classification: II (Moderately hazardous)

SECTION 16: OTHER INFORMATION

Text of the hazard statements mentioned in Section 3

H226	Flammable liquid and vapour.
H301	Toxic if swallowed.
H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H351	Suspected of causing cancer.
H361d	Suspected of damaging the unborn child.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
H413	May cause long lasting harmful effects to aquatic life.

Abbreviations and acronyms

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ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute toxicity estimate
CAS-Nr.	Chemical Abstracts Service number
Conc.	Concentration
EC-No.	European community number
ECx	Effective concentration to x %
EINECS	European inventory of existing commercial substances
ELINCS	European list of notified chemical substances
EN	European Standard
EU	European Union
IATA	International Air Transport Association
IBC	International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (IBC Code)
ICx	Inhibition concentration to x %
IMDG	International Maritime Dangerous Goods
LCx	Lethal concentration to x %
LDx	Lethal dose to x %
LOEC/LOEL	Lowest observed effect concentration/level
MARPOL	MARPOL: International Convention for the prevention of marine pollution from ships
N.O.S.	Not otherwise specified
NOEC/NOEL	No observed effect concentration/level
OECD	Organization for Economic Co-operation and Development
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
TWA	Time weighted average
UN	United Nations
WHO	World health organisation

The information contained within this Safety Data Sheet is in accordance with the guidelines established by Regulation (EU) 1907/2006 and Regulation (EU) 2015/830 amending Regulation (EU) No 1907/2006 and any subsequent amendments. This data sheet complements the user's instructions, but does not replace them. The information it contains is based on the knowledge available about the product concerned at the time it was compiled. Users are further reminded of the possible risks of using a product for purposes other than those for which it was intended. The required information complies with current EEC legislation. Addressees are requested to observe any additional national requirements.

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