

Safety Data Sheet

according to Regulation (EC) No 1907/2006

BIOZIDE**Detmol-flex**

Revision date: 09.07.2019

Product code: 00434-0080

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SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

Detmol-flex

1.2. Relevant identified uses of the substance or mixture and uses advised against**Use of the substance/mixture**

Pesticide

1.3. Details of the supplier of the safety data sheet

Company name: FROWEIN GmbH & Co. KG
 Street: Am Reislebach 83
 Place: D-72461 Albstadt
 Telephone: +49 (0) 74 32-956 - 0 Telefax: +49 (0) 74 32-956 - 138
 Responsible Department: Responsible for the safety data sheet: sds@gbk-ingelheim.de

1.4. Emergency telephone number:

INTERNATIONAL: +49 - (0) 6132 - 84463, GBK GmbH (24h - 7d/w - 365d/a)
 In England and Wales: NHS 111 In Scotland: NHS 24 - dial 111

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****Regulation (EC) No. 1272/2008**

Hazard categories:

Aerosol: Aerosol 1

Serious eye damage/eye irritation: Eye Irrit. 2

Respiratory or skin sensitisation: Skin Sens. 1

Specific target organ toxicity - single exposure: STOT SE 3

Hazardous to the aquatic environment: Aquatic Acute 1

Hazardous to the aquatic environment: Aquatic Chronic 1

Hazard Statements:

Extremely flammable aerosol.

Pressurised container: May burst if heated.

Causes serious eye irritation.

May cause an allergic skin reaction.

May cause drowsiness or dizziness.

Very toxic to aquatic life.

Very toxic to aquatic life with long lasting effects.

2.2. Label elements**Regulation (EC) No. 1272/2008****Hazard components for labelling**

1-Methoxy-2-propanol

Acetone

Permethrin (ISO)

Chrysanthemum cinerariaefolium, extract (pyrethrines)

Signal word: Danger**Pictograms:**

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Hazard statements

H222	Extremely flammable aerosol.
H229	Pressurised container: May burst if heated.
H319	Causes serious eye irritation.
H317	May cause an allergic skin reaction.
H336	May cause drowsiness or dizziness.
H410	Very toxic to aquatic life with long lasting effects.

Precautionary statements

P102	Keep out of reach of children.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P211	Do not spray on an open flame or other ignition source.
P251	Do not pierce or burn, even after use.
P410+P412	Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.
P261	Avoid breathing spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352	IF ON SKIN: Wash with plenty of water.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P273	Avoid release to the environment.

Special labelling of certain mixtures

EUH066	Repeated exposure may cause skin dryness or cracking.
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2.3. Other hazards

According to Regulation (EC) No 1907/2006 (REACH) none of the substances, contained in this product are a PBT / vPvB substance.

Vapours may form explosive mixture with air.

SECTION 3: Composition/information on ingredients**3.2. Mixtures****Chemical characterization**

Preparation in organic solvents

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Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	GHS Classification			
106-97-8	Butane			< 30 %
	203-448-7	601-004-00-0	01-2119474691-32	
	Flam. Gas 1, Compressed gas; H220 H280			
74-98-6	Propane			< 30 %
	200-827-9	601-003-00-5	01-2119486944-21	
	Flam. Gas 1, Compressed gas; H220 H280			
75-28-5	Isobutane			< 30 %
	200-857-2	601-004-00-0	01-2119485395-27	
	Flam. Gas 1, Compressed gas; H220 H280			
107-98-2	1-Methoxy-2-propanol			< 20 %
	203-539-1	603-064-00-3	01-2119457435-35	
	Flam. Liq. 3, STOT SE 3; H226 H336			
67-64-1	Acetone			< 20 %
	200-662-2	606-001-00-8	01-2119471330-49	
	Flam. Liq. 2, Eye Irrit. 2, STOT SE 3; H225 H319 H336 EUH066			
52645-53-1	Permethrin (ISO)			< 2,5 %
	258-067-9	613-058-00-2		
	Acute Tox. 4, Acute Tox. 4, Skin Sens. 1, Aquatic Acute 1 (M-Factor = 1000), Aquatic Chronic 1 (M-Factor = 1000); H332 H302 H317 H400 H410			
89997-63-7	Chrysanthemum cinerariaefolium, extract (pyrethrines)			< 1 %
	289-699-3			
	Acute Tox. 4, Acute Tox. 4, Acute Tox. 4, Aquatic Acute 1 (M-Factor = 100), Aquatic Chronic 1 (M-Factor = 100); H332 H312 H302 H400 H410			

Full text of H and EUH statements: see section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

Remove contaminated soaked clothing immediately.
If you feel unwell, seek medical advice.

After inhalation

Move to fresh air in case of accidental inhalation of vapours.
In the event of symptoms refer for medical treatment.

After contact with skin

Wash off immediately with plenty of water and soap for at least 15 minutes.
Consult a physician.

After contact with eyes

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
Consult (eye) doctor immediately.

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After ingestion

- Do not induce vomiting.
- Rinse out mouth and give plenty of water to drink.
- Never give anything by mouth to an unconscious person.
- Summon a doctor immediately.
- Induce vomiting only upon the advice of a physician.

4.2. Most important symptoms and effects, both acute and delayed

- Causes serious eye irritation.
- May cause an allergic skin reaction.
- May cause drowsiness or dizziness.
- Repeated exposure may cause skin dryness or cracking.

4.3. Indication of any immediate medical attention and special treatment needed

- Treat symptoms.

SECTION 5: Firefighting measures**5.1. Extinguishing media****Suitable extinguishing media**

- Foam, carbon dioxide (CO₂), dry chemical, water-spray.

Unsuitable extinguishing media

- Full water jet

5.2. Special hazards arising from the substance or mixture

- Fire may produce:
 - carbon monoxide and carbon dioxide
 - Chlorine compounds.

5.3. Advice for firefighters

- Wear self-contained breathing apparatus and protective suit.

Additional information

- Vapours are heavier than air and spread along ground.
- Cool containers at risk with water spray jet.
- Heating will cause pressure rise with risk of bursting.
- Do not release chemically contaminated water into drains, soil or surface waters. Sufficient measures must be taken to retain water used for extinguishing.
- Fire residues and contaminated firefighting water must be disposed of in accordance with the local regulations.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

- In case of vapour formation use respirator.
- Ensure adequate ventilation.
- Remove persons to safety.
- Use personal protective clothing.

6.2. Environmental precautions

- Do not discharge into the drains/surface waters/ground water.

6.3. Methods and material for containment and cleaning up

- Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder).
- Shovel into suitable container for disposal.
- Clean contaminated surface thoroughly.

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6.4. Reference to other sections

Observe protective instructions (see Sections 7 and 8).
Information for disposal see section 13.

SECTION 7: Handling and storage**7.1. Precautions for safe handling****Advice on safe handling**

Keep container tightly closed.
Vapours are heavier than air and spread along ground.
Avoid contact with the skin and the eyes.
In case of insufficient ventilation, especially in confined areas.
Do not breathe vapours or spray mist.

Advice on protection against fire and explosion

Keep away from sources of ignition - No smoking.
Do not spray on a naked flame or any other incandescent material.
Heating will cause pressure rise with risk of bursting.
Formation of explosive gas mixtures in air.

7.2. Conditions for safe storage, including any incompatibilities**Requirements for storage rooms and vessels**

Keep container tightly closed in a dry, cool and well-ventilated place.

Hints on joint storage

Incompatible with oxidizing agents.

Further information on storage conditions

Keep away from food, drink and animal feeding stuffs.

7.3. Specific end use(s)

Pesticide

SECTION 8: Exposure controls/personal protection**8.1. Control parameters****Exposure limits (EH40)**

CAS No	Substance	ppm	mg/m ³	fibres/ml	Category	Origin
107-98-2	1-Methoxypropan-2-ol	100	375		TWA (8 h)	WEL
		150	560		STEL (15 min)	WEL
67-64-1	Acetone	500	1210		TWA (8 h)	WEL
		1500	3620		STEL (15 min)	WEL
106-97-8	Butane	600	1450		TWA (8 h)	WEL
		750	1810		STEL (15 min)	WEL

8.2. Exposure controls**Appropriate engineering controls**

Ensure adequate ventilation, especially in confined areas.

Protective and hygiene measures

Do not inhale aerosols

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Wash hands before breaks and immediately after handling the product.

When using do not eat, drink or smoke.

Take off immediately all contaminated clothing.

Avoid contact with skin, eyes and clothing.

Eye/face protection

Tightly fitting goggles (EN 166).

Eye wash bottle with pure water (EN 15154).

Hand protection

Use multipurpose protective gloves (plant protection) when spreading/handling the product (EN 374).

Protective gloves resistant to chemicals made off butyl, minimum coat thickness 0.7 mm, permeation resistance (wear duration) > 240 minutes, i.e. protective glove <Butoject 898> made by www.kcl.de.

This recommendation refers exclusively to the chemical compatibility and the lab test conforming to EN 374 carried out under lab conditions.

Requirements can vary as a function of the use. Therefore it is necessary to adhere additionally to the recommendations given by the manufacturer of protective gloves.

Skin protection

Wear standard protective suit (plant protection) when spreading/handling the product (CE 93 0120).

Rubber apron (EN 467).

Respiratory protection

In case of insufficient ventilation wear suitable respiratory equipment (gas filter type AX) (EN 14387).

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Physical state:	Aerosol
Colour:	clear
Odour:	Ethereal

Test method

pH-Value:	n.d.
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Changes in the physical state

Melting point:	n.d.
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Initial boiling point and boiling range:	n.d.
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Sublimation point:	n.a.
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Softening point:	n.d.
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Flash point:	n.a.
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Flammability

Solid:	n.a.
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Gas:	n.a.
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Explosive properties

The product is considered non-explosive; nevertheless explosive vapour/air mixture can be generated.

Lower explosion limits:	n.d.
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Upper explosion limits:	n.d.
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Ignition temperature:	n.d.
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Auto-ignition temperature

Solid:	n.a.
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Gas: n.a.

Decomposition temperature: n.d.

Oxidizing properties

Not oxidising.

Vapour pressure: n.d.
(at 20 °C)

Density: n.d.

Bulk density: n.a.

Water solubility: Immiscible
(at 20 °C)**Solubility in other solvents**

n.d.

Partition coefficient: n.d.

Viscosity / dynamic: n.d.

Viscosity / kinematic: n.d.

Flow time: n.d.

Vapour density: n.d.

Evaporation rate: n.d.

Solvent separation test: n.d.

Solvent content: < 40 %

9.2. Other information

No data available

SECTION 10: Stability and reactivity**10.1. Reactivity**

No decomposition if stored and applied as directed.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Reactions with oxidizing agents.

10.4. Conditions to avoid

To avoid thermal decomposition, do not overheat.

Vapours may form explosive mixture with air.

10.5. Incompatible materials

oxidizing agents

10.6. Hazardous decomposition products

Fire may produce:

Carbon monoxide and carbon dioxide

chlorine compounds

SECTION 11: Toxicological information**11.1. Information on toxicological effects**

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Acute toxicity

Based on available data, the classification criteria are not met.
No toxicological data available.

Irritation and corrosivity

Causes serious eye irritation.
Skin corrosion/irritation: Based on available data, the classification criteria are not met.

Sensitising effects

May cause an allergic skin reaction. (Permethrin (ISO))

Carcinogenic/mutagenic/toxic effects for reproduction

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

STOT-single exposure

May cause drowsiness or dizziness. (1-Methoxy-2-propanol; Acetone)

STOT-repeated exposure

Repeated exposure may cause skin dryness or cracking.

Aspiration hazard

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

Additional information on tests

Classification in compliance with the assessment procedure specified in the Regulation (EC) no 1272/2008.

Practical experience**Other observations**

High concentration of vapours may cause irritation to eyes and respiratory system and produce narcotic effects.
Occasionally literature hints report that contact with Pyrethrum compounds may trigger hay fever similar reactions in particularly sensible persons.

SECTION 12: Ecological information**12.1. Toxicity**

Ecological data are not available.

Permethrin (ISO)

LC50/Poecilia reticulata/96 h = 0,0089 mg/l [M = 100]

LC50/Cyprinus carpio/96 h = 0,145 mg/l

EC50/Daphnia magna/24 h = 0,02 mg/l [M = 10]

EC50/Scenedesmus subspicatus/72 h > 0,022 mg/l [M = 10]

EC50/Activated sludge/3 h > 1000 mg/l

Very toxic to aquatic life with long lasting effects.

12.2. Persistence and degradability

No data available

12.3. Bioaccumulative potential

No data available

12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

According to Regulation (EC) No 1907/2006 (REACH) none of the substances, contained in this product are a PBT / vPvB substance.

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12.6. Other adverse effects

Severe hazard to waters.

Further information

Do not flush into surface water or sanitary sewer system.

SECTION 13: Disposal considerations**13.1. Waste treatment methods****Disposal recommendations**

Where possible recycling is preferred to disposal.

Can be incinerated, when in compliance with local regulations.

List of Wastes Code - residues/unused products

200119 MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS; separately collected fractions (except 15 01); Pesticides; hazardous waste

List of Wastes Code - contaminated packaging

150111 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); metallic packaging containing a hazardous solid porous matrix (for example asbestos), including empty pressure containers; hazardous waste

Contaminated packaging

Re-using the polluted packaging materials is not allowed.

Contaminated packagings are to be treated like the product itself.

SECTION 14: Transport information**Land transport (ADR/RID)**

14.1. UN number: UN 1950
14.2. UN proper shipping name: AEROSOLS
14.3. Transport hazard class(es): 2
14.4. Packing group: -
 Hazard label: 2.1



Classification code: 5F
 Limited quantity: 1 L / 30 kg
 Excepted quantity: E0
 Transport category: 2
 Tunnel restriction code: D

Inland waterways transport (ADN)

14.1. UN number: UN 1950
14.2. UN proper shipping name: AEROSOLS
14.3. Transport hazard class(es): 2
14.4. Packing group: -
 Hazard label: 2.1

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Classification code: 5F
 Limited quantity: 1 L / 30 kg
 Excepted quantity: E0

Marine transport (IMDG)

14.1. UN number: UN 1950
14.2. UN proper shipping name: AEROSOLS (Permethrin)
14.3. Transport hazard class(es): 2.1
14.4. Packing group: -
 Hazard label: 2.1



Marine pollutant: Yes
 Limited quantity: 1000 mL / 30 kg
 Excepted quantity: E0
 EmS: F-D, S-U

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number: UN 1950
14.2. UN proper shipping name: AEROSOLS, flammable
14.3. Transport hazard class(es): 2.1
14.4. Packing group: -
 Hazard label: 2.1



Limited quantity Passenger: 30 kg G
 Passenger LQ: Y203
 Excepted quantity: E0
 IATA-packing instructions - Passenger: 203
 IATA-max. quantity - Passenger: 75 kg
 IATA-packing instructions - Cargo: 203
 IATA-max. quantity - Cargo: 150 kg

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: yes



14.6. Special precautions for user

Handle in accordance with good industrial hygiene and safety practice.

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

The transport takes place only in approved and appropriate packaging.

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SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****EU regulatory information**

Restrictions on use (REACH, annex XVII):

Entry 28: Butane; Isobutane

2004/42/EC (VOC):

> 95%

Information according to 2012/18/EU
(SEVESO III):

P3a FLAMMABLE AEROSOLS

National regulatory information

Employment restrictions:

Observe restrictions to employment for juvenils according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

15.2. Chemical safety assessment

For this substance a chemical safety assessment has not been carried out.

SECTION 16: Other information**Abbreviations and acronyms**

ADR = Accord européen relatif au transport international des marchandises Dangereuses par Route

RID = Règlement concernant le transport international ferroviaire de marchandises dangereuses

ADN = Accord européen relatif au transport international des marchandises dangereuses par voie de navigation intérieure

IMDG = International Maritime Code for Dangerous Goods

IATA/ICAO = International Air Transport Association / International Civil Aviation Organization

MARPOL = International Convention for the Prevention of Pollution from Ships

IBC-Code = International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk

GHS = Globally Harmonized System of Classification and Labelling of Chemicals

REACH = Registration, Evaluation, Authorization and Restriction of Chemicals

CAS = Chemical Abstract Service

EN = European norm

ISO = International Organization for Standardization

DIN = Deutsche Industrie Norm

PBT = Persistent Bioaccumulative and Toxic

vPvB = Very Persistent and very Bio-accumulative

LD = Lethal dose

LC = Lethal concentration

EC = Effect concentration

IC = Median immobilisation concentration or median inhibitory concentration

Relevant H and EUH statements (number and full text)

H220 Extremely flammable gas.

H222 Extremely flammable aerosol.

H225 Highly flammable liquid and vapour.

H226 Flammable liquid and vapour.

H229 Pressurised container: May burst if heated.

H280 Contains gas under pressure; may explode if heated.

H302 Harmful if swallowed.

H312 Harmful in contact with skin.

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H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H336	May cause drowsiness or dizziness.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
EUH066	Repeated exposure may cause skin dryness or cracking.

Further Information

Data of items 4 to 8, as well as 10 to 12, do partly not refer to the use and the regular employing of the product (in this sense consult information on use and on product), but to liberation of major amounts in case of accidents and irregularities.

The information describes exclusively the safety requirements for the product(s) and is based on the present level of our knowledge.

The delivery specifications are contained in the corresponding product sheet.

This data does not constitute a guarantee for the characteristics of the product(s) as defined by the legal warranty regulations.

(n.a. = not applicable; n.d. = not determined)

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)