



**BIOZIDE**

**Detmol-flex**

Revision date: 07.04.2022

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

UFI: 6520-U010-S008-C7HK

**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**

Aerosol 1; H222-H229

Eye Irrit. 2; H319

Skin Sens. 1; H317

STOT SE 3; H336

Aquatic Acute 1; H400

Aquatic Chronic 1; H410

Full text of hazard statements: see SECTION 16.

**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:**



**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.



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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.

**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.  
The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605  
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			
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			
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			
64742-47-8	Distillates (petroleum), hydrotreated light			< 5 %
	265-149-8			
	Asp. Tox. 1; H304 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, Aquatic Chronic 1; 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, Aquatic Chronic 1; H332 H312 H302 H400 H410			

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

**Specific Conc. Limits, M-factors and ATE**

CAS No	EC No	Chemical name	Quantity
		Specific Conc. Limits, M-factors and ATE	
52645-53-1	258-067-9	Permethrin (ISO)	< 2,5 %
		inhalation: ATE = 11 mg/l (vapours); inhalation: ATE = 1,5 mg/l (dusts or mists); oral: ATE = 500 mg/kg Aquatic Acute 1; H400: M=1000 Aquatic Chronic 1; H410: M=1000	
89997-63-7	289-699-3	Chrysanthemum cinerariaefolium, extract (pyrethrines)	< 1 %
		inhalation: ATE = 11 mg/l (vapours); inhalation: ATE = 1,5 mg/l (dusts or mists); dermal: ATE = 1100 mg/kg; oral: ATE = 500 mg/kg Aquatic Acute 1; H400: M=100 Aquatic Chronic 1; H410: M=100	

**SECTION 4: First aid measures**



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**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.

**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 (CO<sub>2</sub>), 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**



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**6.1. Personal precautions, protective equipment and emergency procedures**

**General advice**

Ensure adequate ventilation.  
Remove persons to safety.

**For non-emergency personnel**

Do not breathe vapours.  
Avoid contact with skin, eyes and clothing.

**For emergency responders**

In case of vapour formation use respirator.  
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**

**For containment**

Prevent spread over a wide area (e.g. by containment or oil barriers).

**For 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.

**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



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**SECTION 8: Exposure controls/personal protection**

**8.1. Control parameters**

**Exposure limits (EH40)**

CAS No	Substance	ppm	mg/m <sup>3</sup>	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
- 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
pH-Value:	n.d.



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**Changes in the physical state**

Melting point/freezing point:	n.d.
Boiling point or initial boiling point and boiling range:	n.d.
Sublimation point:	n.a.
Softening point:	n.d.
Flash point:	n.a.
Sustaining combustion:	Sustaining combustion

**Flammability**

Solid/liquid:	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.
Upper explosion limits:	n.d.
Auto-ignition temperature:	n.d.

**Self-ignition temperature**

Solid:	n.a.
Gas:	n.a.
Decomposition temperature:	n.d.

**Oxidizing properties**

Not oxidising.

Vapour pressure: (at 20 °C)	n.d.
Density:	n.d.
Bulk density:	n.a.
Water solubility: (at 20 °C)	Immiscible

**Solubility in other solvents**

n.d.

Partition coefficient n-octanol/water:	n.d.
Viscosity / dynamic:	n.d.
Viscosity / kinematic:	n.d.
Flow time:	n.d.
Relative 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.



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**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**

No hazardous decomposition products known.  
Fire may produce:  
Carbon monoxide and carbon dioxide  
chlorine compounds

**SECTION 11: Toxicological information**

**11.1. Information on hazard classes as defined in Regulation (EC) No. 1272/2008**

**Acute toxicity**

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

**ATEmix calculated**

ATE (oral) > 2000 mg/kg; ATE (dermal) > 2000 mg/kg; ATE (inhalation vapour) > 20 mg/l; ATE (inhalation dust/mist) > 5 mg/l

**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. (Acetone; 1-Methoxy-2-propanol)

**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.

**11.2. Information on other hazards**

**Endocrine disrupting properties**

No data available

**Other information**

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.





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**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**

The substances in the mixture do not meet the PBT/vPvB criteria according to UK REACH.

**12.6. Endocrine disrupting properties**

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

**12.7. 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**



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**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



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:** -




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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. Maritime transport in bulk according to IMO instruments**

The transport takes place only in approved and appropriate packaging.

**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 3, Entry 28, Entry 40, Entry 75

2004/42/EC (VOC):	> 95%
Information according to 2012/18/EU (SEVESO III):	P3a FLAMMABLE AEROSOLS
Additional information:	E1

**National regulatory information**

Employment restrictions: Observe restrictions to employment for juveniles 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.

Water hazard class (D): 3 - highly hazardous to water

**15.2. Chemical safety assessment**

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

**SECTION 16: Other information**

**Changes**

This data sheet contains changes from the previous version in section(s): 2,6,7,9,10,11,12,14,15.

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

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**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

**Classification for mixtures and used evaluation method according to GB CLP Regulation**

Classification	Classification procedure
Aerosol 1; H222-H229	On basis of test data
Eye Irrit. 2; H319	Calculation method
Skin Sens. 1; H317	Calculation method
STOT SE 3; H336	Calculation method
Aquatic Acute 1; H400	Calculation method
Aquatic Chronic 1; H410	Calculation method

**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.
H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin.
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

**Safety Data Sheet**  
according to Regulation (EC) No 1907/2006

FROWEIN GmbH & Co. KG



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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)

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