

Page 1 of 14  
Safety data sheet according to Regulation (EC) No 1907/2006, Annex II  
Revised on / Version: 25.06.2014 / 0001  
Replaces revision of / Version: 25.06.2014 / 0001  
Valid from: 25.06.2014  
PDF print date: 26.06.2014  
Tower

## Safety data sheet according to Regulation (EC) No 1907/2006, Annex II

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1 Product identifier

##### **Tower**

**40 g/l Diflufenican CAS 83164-33-4**  
**300 g/l Pendimethalin CAS 40487-42-1**  
**250 g/l Chlortoluron CAS 15545-48-9**

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

##### **Relevant identified uses of the substance or mixture:**

Herbicide

##### **Uses advised against:**

Not applicable

#### 1.3 Details of the supplier of the safety data sheet

Makhteshim Agan (UK) Limited, Unit 15, Thatcham Business Village Colthrop Way, Thatcham Berkshire RG19 4LW, UK  
Telephone: 01635 860555, Fax: 01635 861555

Qualified person's e-mail address: info@chemical-check.de, k.schnurbusch@chemical-check.de Please DO NOT use for requesting Safety Data Sheets.

#### 1.4 Emergency telephone

##### **Emergency information services / official advisory body:**

National Chemical Emergency Centre (UK): 01865 407333 (24 hours)

##### **Telephone number of the company in case of emergencies:**

Tel.: --

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

##### 2.1.1 Classification according to Regulation (EC) 1272/2008 (CLP)

Hazard class	Hazard category	Hazard statement
Carc.	2	H351-Suspected of causing cancer.
Repr.	2	H361d-Suspected of damaging the unborn child.
Aquatic Acute	1	H400-Very toxic to aquatic life.
Aquatic Chronic	1	H410-Very toxic to aquatic life with long lasting effects.

##### 2.1.2 Classification according to Directives 67/548/EEC and 1999/45/EC (including amendments)

Carc. Cat. 3, Carcinogen, R40  
N, Dangerous for the environment, R50-53  
Repr. Cat. 3, Toxic to reproduction, R63

#### 2.2 Label elements

##### 2.2.1 Labeling according to Regulation (EC) 1272/2008 (CLP)



Safety data sheet according to Regulation (EC) No 1907/2006, Annex II

Revised on / Version: 25.06.2014 / 0001

Replaces revision of / Version: 25.06.2014 / 0001

Valid from: 25.06.2014

PDF print date: 26.06.2014

Tower

## Warning

### Hazard statement

H351-Suspected of causing cancer. H361d-Suspected of damaging the unborn child. H410-Very toxic to aquatic life with long lasting effects.

P102-Keep out of reach of children.

### Prevention

P201-Obtain special instructions before use. P281-Use personal protective equipment as required.

### Disposal

P501-Dispose of contents/container to an approved waste disposal plant.

EUH208-Contains Pendimethalin (ISO). May produce an allergic reaction.

EUH401-To avoid risks to human health and the environment, comply with the instructions for use.

SP 1 Do not contaminate water with the product or its container (Do not clean application equipment near surface water/Avoid contamination via drains from farmyards and roads).

Chlorotoluron

## 2.3 Other hazards

The mixture does not contain any vPvB substance (vPvB = very persistent, very bioaccumulative) or is not included under XIII of the regulation (EC) 1907/2006.

The mixture does not contain any PBT substance (PBT = persistent, bioaccumulative, toxic) or is not included under XIII of the regulation (EC) 1907/2006.

## SECTION 3: Composition/information on ingredients

Formulation:

Suspension concentrate

### 3.1 Substance

n.a.

### 3.2 Mixture

<b>Pendimethalin (ISO)</b>	
<b>Registration number (REACH)</b>	--
<b>Index</b>	609-042-00-X
<b>EINECS, ELINCS, NLP</b>	254-938-2
<b>CAS</b>	CAS 40487-42-1
<b>content %</b>	20-30
<b>Classification according to Directive 67/548/EEC</b>	Sensitizing, R43 Dangerous for the environment, N, R50 Dangerous for the environment, R53
<b>Classification according to Regulation (EC) 1272/2008 (CLP)</b>	Skin Sens. 1, H317 Aquatic Acute 1, H400 (M=1) Aquatic Chronic 1, H410 (M=1)
<b>Chlorotoluron</b>	
<b>Registration number (REACH)</b>	--
<b>Index</b>	616-105-00-5
<b>EINECS, ELINCS, NLP</b>	239-592-2
<b>CAS</b>	CAS 15545-48-9
<b>content %</b>	20-30
<b>Classification according to Directive 67/548/EEC</b>	Carcinogen, R40, Carc.Cat.3 Toxic to reproduction, R63, Repr.Cat.3 Dangerous for the environment, N, R50 Dangerous for the environment, R53
<b>Classification according to Regulation (EC) 1272/2008 (CLP)</b>	Carc. 2, H351 Repr. 2, H361d Aquatic Acute 1, H400 (M=10) Aquatic Chronic 1, H410 (M=10)
<b>Ethoxylated polyaryl phenol</b>	
<b>Registration number (REACH)</b>	--
<b>Index</b>	---

Page 3 of 14  
 Safety data sheet according to Regulation (EC) No 1907/2006, Annex II  
 Revised on / Version: 25.06.2014 / 0001  
 Replaces revision of / Version: 25.06.2014 / 0001  
 Valid from: 25.06.2014  
 PDF print date: 26.06.2014  
 Tower

<b>EINECS, ELINCS, NLP</b>	-
<b>CAS</b>	CAS 99734-09-5
<b>content %</b>	1-5
<b>Classification according to Directive 67/548/EEC</b>	Dangerous for the environment, R52 Dangerous for the environment, R53
<b>Classification according to Regulation (EC) 1272/2008 (CLP)</b>	Aquatic Chronic 3, H412

<b>Diflufenican</b>	
<b>Registration number (REACH)</b>	--
<b>Index</b>	616-032-00-9
<b>EINECS, ELINCS, NLP</b>	-
<b>CAS</b>	CAS 83164-33-4
<b>content %</b>	1-5
<b>Classification according to Directive 67/548/EEC</b>	Dangerous for the environment, R52 Dangerous for the environment, R53
<b>Classification according to Regulation (EC) 1272/2008 (CLP)</b>	Aquatic Chronic 3, H412

For the text of the R-phrases / H-phrases and classification codes (GHS/CLP), see Section 16.

The substances named in this section are given with their actual, appropriate classification!

For substances that are listed in appendix VI, table 3.1/3.2 of the regulation (EC) no. 1272/2008 (CLP regulation) this means that all notes that may be given here for the named classification have been taken into account.

If, for example, the note P is applied for a hydrocarbon then this has already been taken into account for the classification named here.

Quote: "Note P - The classification as a carcinogen or mutagen need not apply if it can be shown that the substance contains less than 0,1 % w/w benzene (EINECS No 200-753-7)."

Article 4 of the regulation (EC) no. 1272/2008 (CLP regulation) was also observed and taken into account for the classification named here.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

#### Inhalation

Remove person from danger area.

Supply person with fresh air and consult doctor according to symptoms.

#### Skin contact

Remove polluted, soaked clothing immediately, wash thoroughly with plenty of water and soap, in case of irritation of the skin (flare), consult a doctor.

#### Eye contact

Remove contact lenses.

Wash thoroughly for several minutes using copious water. Seek medical help if necessary.

#### Ingestion

Rinse the mouth thoroughly with water.

Give copious water to drink - consult doctor immediately.

Never pour anything into the mouth of an unconscious person!

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

If applicable delayed symptoms and effects can be found in section 11 and the absorption route in section 4.1.

In certain cases, the symptoms of poisoning may only appear after an extended period / after several hours.

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

Symptomatic treatment

Antidote:

None known

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

#### Suitable extinguishing media

Water jet spray/foam/CO2/dry extinguisher

#### Unsuitable extinguishing media

High volume water jet

### 5.2 Special hazards arising from the substance or mixture

In case of fire the following can develop:

Oxides of carbon

Oxides of nitrogen

Page 4 of 14  
 Safety data sheet according to Regulation (EC) No 1907/2006, Annex II  
 Revised on / Version: 25.06.2014 / 0001  
 Replaces revision of / Version: 25.06.2014 / 0001  
 Valid from: 25.06.2014  
 PDF print date: 26.06.2014  
 Tower

Hydrogen chloride  
 Hydrofluoric acid  
 Toxic gases

### 5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes.  
 Protective respirator with independent air supply.  
 According to size of fire  
 Full protection, if necessary  
 Dispose of contaminated extinction water according to official regulations.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Ensure sufficient supply of air.  
 Avoid contact with eyes or skin.  
 If applicable, caution - risk of slipping

### 6.2 Environmental precautions

If leakage occurs, dam up.  
 Resolve leaks if this possible without risk.  
 Prevent surface and ground-water infiltration, as well as ground penetration.  
 Prevent from entering drainage system.  
 If accidental entry into drainage system occurs, inform responsible authorities.

### 6.3 Methods and material for containment and cleaning up

Soak up with absorbent material (e.g. universal binding agent, sand, diatomaceous earth, sawdust) and dispose of according to Section 13.  
 Fill the absorbed material into lockable containers.

### 6.4 Reference to other sections

For personal protective equipment see Section 8 and for disposal instructions see Section 13.

## SECTION 7: Handling and storage

In addition to information given in this section, relevant information can also be found in section 8 and 6.1.

### 7.1 Precautions for safe handling

#### 7.1.1 General recommendations

Ensure good ventilation.  
 Avoid contact with eyes or skin.  
 Pregnant women should avoid contact with this product.  
 Eating, drinking, smoking, as well as food-storage, is prohibited in work-room.  
 Observe directions on label and instructions for use.  
 Use working methods according to operating instructions.

#### 7.1.2 Notes on general hygiene measures at the workplace

General hygiene measures for the handling of chemicals are applicable.  
 Wash hands before breaks and at end of work.  
 Keep away from food, drink and animal feedingstuffs.  
 Remove contaminated clothing and protective equipment before entering areas in which food is consumed.

### 7.2 Conditions for safe storage, including any incompatibilities

Keep out of access to unauthorised individuals.  
 Observe regulations for keeping separated.  
 Store product closed and only in original packing.  
 Not to be stored in gangways or stair wells.  
 Under all circumstances prevent penetration into the soil.  
 Only store at temperatures from 0°C to 35°C.

### 7.3 Specific end use(s)

No information available at present.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

(GB) Chemical Name	Glycerine	Content %:	
WEL-TWA: 10 mg/m3 (mist)	WEL-STEL: ---	---	---
BMGV: ---	Other information: ---		

Page 5 of 14  
Safety data sheet according to Regulation (EC) No 1907/2006, Annex II  
Revised on / Version: 25.06.2014 / 0001  
Replaces revision of / Version: 25.06.2014 / 0001  
Valid from: 25.06.2014  
PDF print date: 26.06.2014  
Tower

(GB) WEL-TWA = Workplace Exposure Limit - Long-term exposure limit (8-hour TWA (= time weighted average) reference period) EH40. AGW = "Arbeitsplatzgrenzwert" (workplace limit value, Germany). | WEL-STEL = Workplace Exposure Limit - Short-term exposure limit (15-minute reference period). | BMGV = Biological monitoring guidance value EH40. BGW = "Biologischer Grenzwert" (biological limit value, Germany) | Other information: Sen = Capable of causing occupational asthma. Sk = Can be absorbed through skin. Carc = Capable of causing cancer and/or heritable genetic damage.  
\*\* = The exposure limit for this substance is repealed through the TRGS 900 (Germany) of January 2006 with the goal of revision.

## 8.2 Exposure controls

### 8.2.1 Appropriate engineering controls

Ensure good ventilation. This can be achieved by local suction or general air extraction.  
If this is insufficient to maintain the concentration under the WEL or AGW values, suitable breathing protection should be worn.  
Applies only if maximum permissible exposure values are listed here.

### 8.2.2 Individual protection measures, such as personal protective equipment

General hygiene measures for the handling of chemicals are applicable.  
Wash hands before breaks and at end of work.  
Keep away from food, drink and animal feedingstuffs.  
Remove contaminated clothing and protective equipment before entering areas in which food is consumed.

Eye/face protection:

Tight fitting protective goggles with side protection (EN 166).

Skin protection - Hand protection:

Chemical resistant protective gloves (EN 374).

If applicable

Protective Neoprene® / polychloroprene gloves (EN 374).

Protective nitrile gloves (EN 374)

Protective PVC gloves (EN 374)

Minimum layer thickness in mm:

0,5

Permeation time (penetration time) in minutes:

120

The breakthrough times determined in accordance with EN 374 Part III were not obtained under practical conditions.

The recommended maximum wearing time is 50% of breakthrough time.

Protective hand cream recommended.

Skin protection - Other:

Protective working garments (e.g. safety shoes EN ISO 20345, long-sleeved protective working garments)

Respiratory protection:

Normally not necessary.

with formation of mist.

Filter A2 P2 (EN 14387), code colour brown, white

Observe wearing time limitations for respiratory protection equipment.

Thermal hazards:

Not applicable

Additional information on hand protection - No tests have been performed.

In the case of mixtures, the selection has been made according to the knowledge available and the information about the contents.

Selection of materials derived from glove manufacturer's indications.

Final selection of glove material must be made taking the breakthrough times, permeation rates and degradation into account.

Selection of a suitable glove depends not only on the material but also on other quality characteristics and varies from manufacturer to manufacturer.

In the case of mixtures, the resistance of glove materials cannot be predicted and must therefore be tested before use.

The exact breakthrough time of the glove material can be requested from the protective glove manufacturer and must be observed.

### 8.2.3 Environmental exposure controls

No information available at present.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Physical state:

Liquid, Suspension

Colour:

Yellow, Orange

Odour:

Organic solvents

Page 6 of 14  
 Safety data sheet according to Regulation (EC) No 1907/2006, Annex II  
 Revised on / Version: 25.06.2014 / 0001  
 Replaces revision of / Version: 25.06.2014 / 0001  
 Valid from: 25.06.2014  
 PDF print date: 26.06.2014  
 Tower

Odour threshold:	Not determined
pH-value:	7,04 (CIPAC MT 75.3)
pH-value:	5,93 (1 %, CIPAC MT 75.3)
Melting point/freezing point:	Not determined
Initial boiling point and boiling range:	Not determined
Flash point:	>100 °C (Regulation (EC) 440/2008 A.9. (FLASH-POINT))
Evaporation rate:	Not determined
Flammability (solid, gas):	n.a.
Lower explosive limit:	n.a.
Upper explosive limit:	n.a.
Vapour pressure:	Not determined
Vapour density (air = 1):	Not determined
Density:	1,1499 g/ml (20°C, Regulation (EC) 440/2008 A.3. (RELATIVE DENSITY))
Bulk density:	n.a.
Solubility(ies):	Not determined
Water solubility:	Not determined
Partition coefficient (n-octanol/water):	Not determined
Auto-ignition temperature:	425 °C (Regulation (EC) 440/2008 A.15. (AUTO-IGNITION TEMPERATURE (LIQUIDS AND GASES)))
Decomposition temperature:	Not determined
Viscosity:	0,176-0,861 mPas (20°C, OECD 114 (Viscosity of Liquids))
Viscosity:	0,166-0,78 mPas (40°C, OECD 114 (Viscosity of Liquids))
Explosive properties:	Product is not explosive.
Oxidising properties:	No
<b>9.2 Other information</b>	
Miscibility:	Not determined
Fat solubility / solvent:	Not determined
Conductivity:	Not determined
Surface tension:	36,8 mN/m (0,1 %, 20°C, Regulation (EC) 440/2008 A.5. (SURFACE TENSION))
Solvents content:	Not determined

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

The product has not been tested.

### 10.2 Chemical stability

Stable with proper storage and handling.

### 10.3 Possibility of hazardous reactions

No dangerous reactions are known.

### 10.4 Conditions to avoid

See also section 7.

Protect from frost.

Strong heat

### 10.5 Incompatible materials

See also section 7.

Avoid contact with strong oxidizing agents.

Avoid contact with strong alkalis.

Avoid contact with strong acids.

### 10.6 Hazardous decomposition products

See also section 5.2

No decomposition when used as directed.

## SECTION 11: Toxicological information

Possibly more information on health effects, see Section 2.1 (classification).

Tower						
Toxicity/effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	>2000	mg/kg	Rat	OECD 423 (Acute Oral Toxicity - Acute Toxic Class Method)	
Acute toxicity, by dermal route:	LD50	>2000	mg/kg	Rat	OECD 402 (Acute Dermal Toxicity)	

Acute toxicity, by inhalation:				Rat	OECD 403 (Acute Inhalation Toxicity)	suitable stable test atmosphere could not be generated, test not feasible
Skin corrosion/irritation:				Rabbit	OECD 404 (Acute Dermal Irritation/Corrosion)	Not irritant
Serious eye damage/irritation:				Rabbit	OECD 405 (Acute Eye Irritation/Corrosion)	Slightly irritant Not relevant for classification.
Respiratory or skin sensitisation:				Guinea pig	OECD 406 (Skin Sensitisation)	No (skin contact)
Germ cell mutagenicity:						n.d.a.
Carcinogenicity:						n.d.a.
Reproductive toxicity:						n.d.a.
Specific target organ toxicity - single exposure (STOT-SE):						n.d.a.
Specific target organ toxicity - repeated exposure (STOT-RE):						n.d.a.
Aspiration hazard:						n.d.a.
Respiratory tract irritation:						n.d.a.
Repeated dose toxicity:						n.d.a.
Symptoms:						n.d.a.

**Pendimethalin (ISO)**

Toxicity/effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	>5000	mg/kg	Rat		
Acute toxicity, by dermal route:	LD50	>2000	mg/kg	Rabbit		
Acute toxicity, by inhalation:	LC50	>320	mg/l	Rat		
Skin corrosion/irritation:						Not irritant
Serious eye damage/irritation:				Rabbit		Slightly irritant
Respiratory or skin sensitisation:					OECD 406 (Skin Sensitisation)	Not sensitising
Respiratory or skin sensitisation:						Yes (skin contact)
Germ cell mutagenicity:						Negative
Carcinogenicity:	NOEL	100	mg/kg			Negative
Reproductive toxicity:	NOAEL	60,4 - 90,7	mg/kg/d	Rat		
Reproductive toxicity:	NOAEL	250	mg/kg bw/d	Rat		(maternal teratogenicity)
Teratogenicity:	NOAEL	250	mg/kg/d	Rat		
Other information:						ADI 0,125 mg/kg bw/d

**Chlorotoluron**

Toxicity/effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	>5000	mg/kg	Rat		
Acute toxicity, by dermal route:	LD50	>2000	mg/kg	Rabbit		
Acute toxicity, by inhalation:	LC50	>5,3	mg/l/4h	Rat		
Skin corrosion/irritation:				Rabbit		Not irritant
Serious eye damage/irritation:				Rabbit		Not irritant
Respiratory or skin sensitisation:				Guinea pig		Not sensitising
Germ cell mutagenicity:						Negative

**Ethoxylated polyaryl phenol**

Toxicity/effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	>2000	mg/kg	Rat		
Skin corrosion/irritation:				Rabbit		Not irritant
Serious eye damage/irritation:				Rabbit		Not irritant

Page 8 of 14  
 Safety data sheet according to Regulation (EC) No 1907/2006, Annex II  
 Revised on / Version: 25.06.2014 / 0001  
 Replaces revision of / Version: 25.06.2014 / 0001  
 Valid from: 25.06.2014  
 PDF print date: 26.06.2014  
 Tower

Germ cell mutagenicity:					OECD 471 (Bacterial Reverse Mutation Test)	Negative
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<b>Diflufenican</b>						
Toxicity/effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	>2000	mg/kg	Rat		
Acute toxicity, by dermal route:	LD50	>2000	mg/kg	Rat		
Acute toxicity, by inhalation:	LC50	>4,94	mg/l/4h	Rat		

<b>Glycerine</b>						
Toxicity/effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	>2000	mg/kg	Rat		
Acute toxicity, by oral route:	LD50	>12600	mg/kg	Rat		
Acute toxicity, by oral route:	LD50	>2000	mg/kg	Rabbit		
Acute toxicity, by oral route:	LD50	>5000	mg/kg	Rat	IUCLID Chem. Data Sheet (ESIS)	
Acute toxicity, by dermal route:	LD50	>10000	mg/kg	Rabbit		
Acute toxicity, by dermal route:	LD50	>5000	mg/kg	Rabbit	IUCLID Chem. Data Sheet (ESIS)	
Skin corrosion/irritation:					OECD 404 (Acute Dermal Irritation/Corrosion)	Not irritant
Skin corrosion/irritation:				Rabbit	IUCLID Chem. Data Sheet (ESIS)	Not irritant
Serious eye damage/irritation:				Rabbit	OECD 405 (Acute Eye Irritation/Corrosion)	Not irritant
Serious eye damage/irritation:					OECD 405 (Acute Eye Irritation/Corrosion)	Not irritant
Respiratory or skin sensitisation:				Guinea pig		Not sensitising
Germ cell mutagenicity:					OECD 471 (Bacterial Reverse Mutation Test)	Negative
Reproductive toxicity:	NOAEL	2000	mg/kg/d			Negative
Specific target organ toxicity - repeated exposure (STOT-RE):	NOAEL	3,91	mg/l	Rat		14d
Aspiration hazard:						Negative
Symptoms:						abdominal pain, dizziness, diarrhoea, vomiting, headaches, mucous membrane irritation

## SECTION 12: Ecological information

Possibly more information on environmental effects, see Section 2.1 (classification).

<b>Tower</b>							
Toxicity/effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
Toxicity to fish:	LC50	96h	5,91	mg/l	Oncorhynchus mykiss	OECD 203 (Fish, Acute Toxicity Test)	
Toxicity to fish:	NOEC/NOEL		2,9	mg/l	Oncorhynchus mykiss	OECD 203 (Fish, Acute Toxicity Test)	
Toxicity to daphnia:	NOEC/NOEL		25,8	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	



Toxicity to daphnia:	EC50	48h	89,7	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
Toxicity to algae:	ErC50	72h	0,027 7	mg/l	Desmodesmus subspicatus	OECD 201 (Alga, Growth Inhibition Test)	
Toxicity to algae:	EyC50	72h	0,007 72	mg/l	Desmodesmus subspicatus	OECD 201 (Alga, Growth Inhibition Test)	
Toxicity to algae:	NOEC/NO EL		0,001 28	mg/l	Desmodesmus subspicatus	OECD 201 (Alga, Growth Inhibition Test)	
Persistence and degradability:							n.d.a.
Bioaccumulative potential:							n.d.a.
Mobility in soil:							n.d.a.
Results of PBT and vPvB assessment							n.d.a.
Other adverse effects:							n.d.a.
Other organisms:	NOEC/NO EL	14d	0,455	mg/l			myriophyllum spicatum
Other organisms:	ErC50	14d	1,79	mg/l			myriophyllum spicatum
Other organisms:	EyC50	14d	1,082	mg/l			myriophyllum spicatum

**Pendimethalin (ISO)**

Toxicity/effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
Toxicity to fish:	LC50	96h	0,2	mg/l	Lepomis macrochirus		
Toxicity to fish:	LC50	96h	0,707	mg/l	Cyprinus caprio		
Toxicity to fish:	LC50	96h	0,199	mg/l	Oncorhynchus mykiss		
Toxicity to fish:	LC50	96h	0,14	mg/l	Oncorhynchus mykiss		
Toxicity to daphnia:	LC50	24h	0,52	mg/l	Daphnia magna		
Persistence and degradability:	DT50		<21	d			Water
Persistence and degradability:							DT50 3-4m
Bioaccumulative potential:	Log Pow		5,18				
Mobility in soil:							Kd 2,23 (0,01% o.m., pH6,6) - 1638 (16,9% o.m., pH6,8)
Toxicity to insects:			>50	µg/bee			topical

**Chlorotoluron**

Toxicity/effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
Toxicity to fish:	LC50	96h	>100	mg/l	Cyprinus caprio		
Toxicity to fish:	LC50	96h	20	mg/l	Oncorhynchus mykiss		
Toxicity to daphnia:	EC50	48h	67	mg/l	Daphnia magna		
Toxicity to algae:	EC50	72h	0,024	mg/l	Scenedesmus subspicatus		
Persistence and degradability:							Not readily biodegradable

**Ethoxylated polyaryl phenol**

Toxicity/effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
Persistence and degradability:		28d	16	%		OECD 302 B (Inherent Biodegradability - Zahn- Wellens/EMPA Test)	

Page 10 of 14  
 Safety data sheet according to Regulation (EC) No 1907/2006, Annex II  
 Revised on / Version: 25.06.2014 / 0001  
 Replaces revision of / Version: 25.06.2014 / 0001  
 Valid from: 25.06.2014  
 PDF print date: 26.06.2014  
 Tower

Persistence and degradability:		28d	8	%		OECD 301 A (Ready Biodegradability - DOC Die-Away Test)	
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Diflufenican							
Toxicity/effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
Toxicity to fish:	LC50	96h	>0,04	mg/l			Does not conform with EU classification.
Toxicity to daphnia:	EC50	48h	0,24	mg/l	Daphnia magna		Does not conform with EU classification.
Toxicity to algae:	EC50	72h	0,000 2- 0,000 4	mg/l			Does not conform with EU classification.
Toxicity to birds:	LD50		>4000	mg/kg	Anas platyrhynchos		
Toxicity to birds:	LD50		>2150	mg/kg	Colinus virginianus		

Glycerine							
Toxicity/effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
Toxicity to fish:	LC50	96h	>1000 0	mg/l	Leuciscus idus		
Toxicity to fish:	LC50	96h	> 5000	mg/l	Carassius auratus		
Toxicity to fish:	LC50	24h	>5000	mg/l	Carassius auratus		References
Toxicity to daphnia:	EC5	72h	3200	mg/l			References
Toxicity to daphnia:	EC50	24h	>1000 0	mg/l	Daphnia magna		
Toxicity to daphnia:	EC50	24h	>1000 0	mg/l	Daphnia magna	IUCLID Chem. Data Sheet (ESIS)	
Toxicity to algae:	IC5	7d	>1000 0	mg/l	Selenastrum capricornutum		References
Toxicity to algae:	IC5	7d	>1000 0	mg/l	Scenedesmus quadricauda		
Persistence and degradability:		14d	63	%		OECD 301 C (Ready Biodegradability - Modified MITI Test (I))	
Persistence and degradability:		14d	63	%		OECD 301 C (Ready Biodegradability - Modified MITI Test (I))	
Bioaccumulative potential:	Log Pow		-1,76				
Results of PBT and vPvB assessment							n.a.
Toxicity to bacteria:	EC5	16h	> 10000	mg/l	Pseudomonas putida		
Other information:	BOD5		0,87	g/g			
Other information:	COD		1,16	g/g			

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### For the substance / mixture / residual amounts

EC disposal code no.:

The waste codes are recommendations based on the scheduled use of this product. Owing to the user's specific conditions for use and disposal, other waste codes may be allocated under certain circumstances. (2001/118/EC, 2001/119/EC, 2001/573/EC)

Page 11 of 14  
 Safety data sheet according to Regulation (EC) No 1907/2006, Annex II  
 Revised on / Version: 25.06.2014 / 0001  
 Replaces revision of / Version: 25.06.2014 / 0001  
 Valid from: 25.06.2014  
 PDF print date: 26.06.2014  
 Tower

02 01 08 agrochemical waste containing dangerous substances  
 07 04 01 aqueous washing liquids and mother liquors  
 20 01 19 pesticides  
 Recommendation:  
 Pay attention to local and national official regulations  
 Approved rubbish dump for special refuse  
 E.g. suitable incineration plant.  
 E.g. dispose at suitable refuse site.

### For contaminated packing material



Pay attention to local and national official regulations  
 Empty container completely.  
 Dispose of packaging that cannot be cleaned in the same manner as the substance.  
 15 01 02 plastic packaging

## SECTION 14: Transport information



### General statements

UN number: 3082



### Transport by road/by rail (ADR/RID)

UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (PENDIMETHALIN,CHLOROTOLURON)    
 Transport hazard class(es): 9  
 Packing group: III  
 Classification code: M6  
 LQ (ADR 2013): 5 L  
 LQ (ADR 2009): 7  
 Environmental hazards: environmentally hazardous  
 Tunnel restriction code: E

### Transport by sea (IMDG-code)

UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (PENDIMETHALIN,CHLOROTOLURON)    
 Transport hazard class(es): 9  
 Packing group: III  
 EmS: F-A, S-F  
 Marine Pollutant: Yes  
 Environmental hazards: environmentally hazardous

### Transport by air (IATA)

UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, liquid, n.o.s. (PENDIMETHALIN,CHLOROTOLURON)    
 Transport hazard class(es): 9  
 Packing group: III  
 Environmental hazards: environmentally hazardous

### Special precautions for user

Persons employed in transporting dangerous goods must be trained.  
 All persons involved in transporting must observe safety regulations.  
 Precautions must be taken to prevent damage.

### Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Freighted as packaged goods rather than in bulk, therefore not applicable.  
 Minimum amount regulations have not been taken into account.  
 Danger code and packing code on request.  
 Comply with special provisions.

## SECTION 15: Regulatory information

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

For classification and labelling see Section 2.

Observe restrictions: Yes

Comply with trade association/occupational health regulations.

Observe youth employment law (German regulation).

Observe law on protection of expectant mothers (German regulation).

### 15.2 Chemical safety assessment

A chemical safety assessment is not provided for mixtures.

## SECTION 16: Other information

Page 12 of 14  
 Safety data sheet according to Regulation (EC) No 1907/2006, Annex II  
 Revised on / Version: 25.06.2014 / 0001  
 Replaces revision of / Version: 25.06.2014 / 0001  
 Valid from: 25.06.2014  
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 Tower

These details refer to the product as it is delivered.

Revised sections:

n.a.

Observe plant protection medium law.

### Classification and processes used to derive the classification of the mixture in accordance with the ordinance (EG) 1272/2008 (CLP):

Classification in accordance with regulation (EC) No. 1272/2008 (CLP)	Evaluation method used
Carc. 2, H351	Classification according to calculation procedure.
Repr. 2, H361d	Classification according to calculation procedure.
Aquatic Acute 1, H400	Classification according to calculation procedure.
Aquatic Chronic 1, H410	Classification according to calculation procedure.

The following phrases represent the posted R phrases / H phrases, Hazard Class and Risk Category Code (GHS/CLP) of the product and the constituents (specified in Section 2 and 3).

40 Limited evidence of a carcinogenic effect.

43 May cause sensitization by skin contact.

50 Very toxic to aquatic organisms.

50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

52 Harmful to aquatic organisms.

53 May cause long-term adverse effects in the aquatic environment.

63 Possible risk of harm to the unborn child.

H361d Suspected of damaging the unborn child.

H317 May cause an allergic skin reaction.

H351 Suspected of causing cancer.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

H412 Harmful to aquatic life with long lasting effects.

Carc. — Carcinogenicity

Repr. — Reproductive toxicity

Aquatic Chronic — Hazardous to the aquatic environment - chronic

Aquatic Acute — Hazardous to the aquatic environment - acute

Skin Sens. — Skin sensitization

### Any abbreviations and acronyms used in this document:

AC Article Categories

acc., acc. to according, according to

ACGIH American Conference of Governmental Industrial Hygienists

ADR Accord européen relatif au transport international des marchandises Dangereuses par Route (= European Agreement concerning the International Carriage of Dangerous Goods by Road)

AOEL Acceptable Operator Exposure Level

AOX Adsorbable organic halogen compounds

approx. approximately

Art., Art. no. Article number

ATE Acute Toxicity Estimate according to Regulation (EC) 1272/2008 (CLP)

BAM Bundesanstalt für Materialforschung und -prüfung (Federal Institute for Materials Research and Testing, Germany)

BAuA Bundesanstalt für Arbeitsschutz und Arbeitsmedizin (= Federal Institute for Occupational Health and Safety, Germany)

BCF Bioconcentration factor

BGV Berufsgenossenschaftliche Vorschrift (= Accident Prevention Regulation)

BHT Butylhydroxytoluol (= 2,6-Di-t-butyl-4-methyl-phenol)

BMGV Biological monitoring guidance value (EH40, UK)

BOD Biochemical oxygen demand

BSEF Bromine Science and Environmental Forum

bw body weight

CAS Chemical Abstracts Service

CEC Coordinating European Council for the Development of Performance Tests for Fuels, Lubricants and Other Fluids

CESIO Comité Européen des Agents de Surface et de leurs Intermédiaires Organiques

CIPAC Collaborative International Pesticides Analytical Council

CLP Classification, Labelling and Packaging (REGULATION (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures)

CMR carcinogenic, mutagenic, reproductive toxic

COD Chemical oxygen demand  
CTFA Cosmetic, Toiletry, and Fragrance Association  
DMEL Derived Minimum Effect Level  
DNEL Derived No Effect Level  
DOC Dissolved organic carbon  
DT50 Dwell Time - 50% reduction of start concentration  
DVS Deutscher Verband für Schweißen und verwandte Verfahren e.V. (= German Association for Welding and Allied Processes)  
dw dry weight  
e.g. for example (abbreviation of Latin 'exempli gratia'), for instance  
EC European Community  
ECHA European Chemicals Agency  
EEA European Economic Area  
EEC European Economic Community  
EINECS European Inventory of Existing Commercial Chemical Substances  
ELINCS European List of Notified Chemical Substances  
EN European Norms  
EPA United States Environmental Protection Agency (United States of America)  
ERC Environmental Release Categories  
ES Exposure scenario  
etc. et cetera  
EU European Union  
EWC European Waste Catalogue  
Fax. Fax number  
gen. general  
GHS Globally Harmonized System of Classification and Labelling of Chemicals  
GWP Global warming potential  
HET-CAM Hen's Egg Test - Chorionallantoic Membrane  
HGWP Halocarbon Global Warming Potential  
IARC International Agency for Research on Cancer  
IATA International Air Transport Association  
IBC Intermediate Bulk Container  
IBC (Code) International Bulk Chemical (Code)  
IC Inhibitory concentration  
IMDG-code International Maritime Code for Dangerous Goods  
incl. including, inclusive  
IUCLID International Uniform Chemical Information Database  
LC lethal concentration  
LC50 lethal concentration 50 percent kill  
LCLo lowest published lethal concentration  
LD Lethal Dose of a chemical  
LD50 Lethal Dose, 50% kill  
LDLo Lethal Dose Low  
LOAEL Lowest Observed Adverse Effect Level  
LOEC Lowest Observed Effect Concentration  
LOEL Lowest Observed Effect Level  
LQ Limited Quantities  
MARPOL International Convention for the Prevention of Marine Pollution from Ships  
n.a. not applicable  
n.av. not available  
n.c. not checked  
n.d.a. no data available  
NIOSH National Institute of Occupational Safety and Health (United States of America)  
NOAEC No Observed Adverse Effective Concentration  
NOAEL No Observed Adverse Effect Level  
NOEC No Observed Effect Concentration  
NOEL No Observed Effect Level  
ODP Ozone Depletion Potential  
OECD Organisation for Economic Co-operation and Development  
org. organic  
PAH polycyclic aromatic hydrocarbon  
PBT persistent, bioaccumulative and toxic  
PC Chemical product category  
PE Polyethylene  
PNEC Predicted No Effect Concentration  
POCP Photochemical ozone creation potential  
ppm parts per million  
PROC Process category  
PTFE Polytetrafluorethylene

REACH Registration, Evaluation, Authorisation and Restriction of Chemicals (REGULATION (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals)

REACH-IT List-No. 9xx-xxx-x No. is automatically assigned, e.g. to pre-registrations without a CAS No. or other numerical identifier. List Numbers do not have any legal significance, rather they are purely technical identifiers for processing a submission via REACH-IT.

RID Règlement concernant le transport International ferroviaire de marchandises Dangereuses (= Regulation concerning the International Carriage of Dangerous Goods by Rail)

SADT Self-Accelerating Decomposition Temperature

SAR Structure Activity Relationship

SU Sector of use

SVHC Substances of Very High Concern

Tel. Telephone

ThOD Theoretical oxygen demand

TOC Total organic carbon

TRGS Technische Regeln für Gefahrstoffe (=Technical Regulations for Hazardous Substances)

UN RTDG United Nations Recommendations on the Transport of Dangerous Goods

VbF Verordnung über brennbare Flüssigkeiten (= Regulation for flammable liquids (Austria))

VOC Volatile organic compounds

vPvB very persistent and very bioaccumulative

WEL-TWA, WEL-STEL WEL-TWA = Workplace Exposure Limit - Long-term exposure limit (8-hour TWA (= time weighted average) reference period), WEL-STEL = Workplace Exposure Limit - Short-term exposure limit (15-minute reference period) (EH40, UK).

WHO World Health Organization

wwt wet weight

The statements made here should describe the product with regard to the necessary safety precautions - they are not meant to guarantee definite characteristics - but they are based on our present up-to-date knowledge.

No responsibility.

These statements were made by:

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