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Valid from: 28.01.2014
PDF print date: 01.12.2014
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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

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200 g/l Bromoxynil (Phenol) CAS 1689-84-5

300 g/l Terbutylazin CAS 5915-41-3

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

Adama Agricultural Solutions UK Ltd, Unit 15, Thatcham Business Village Colthrop Way, Thatcham Berkshire RG19 4LW, UK
Telephone: 01635 860555, Fax: 01635 861555
ukenquiries@adama.com

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
Acute Tox.	4	H332-Harmful if inhaled.
Acute Tox.	4	H302-Harmful if swallowed.
Eye Irrit.	2	H319-Causes serious eye irritation.
Skin Sens.	1	H317-May cause an allergic skin reaction.
Repr.	2	H361d-Suspected of damaging the unborn child.

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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)

Xn, Harmful, R20/22

Xi, Irritant, R36

Sensitizing, R43

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)



Warning

Hazard statement

H332-Harmful if inhaled. H302-Harmful if swallowed. H319-Causes serious eye irritation. H317-May cause an allergic skin reaction. H361d-Suspected of damaging the unborn child. H410-Very toxic to aquatic life with long lasting effects.

P102-Keep out of reach of children.

P201-Obtain special instructions before use. P261-Avoid breathing vapours or spray. P270-Do not eat, drink or smoke when using this product. P281-Use personal protective equipment as required.

P302+P352-IF ON SKIN: Wash with plenty of water and soap. P304+P340-IF INHALED: Remove person to fresh air and keep comfortable for breathing. P305+P351+P338-IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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

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).

Bromoxynil (ISO)

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.

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SECTION 3: Composition/information on ingredients

Formulation:
Suspension concentrate

3.1 Substance

n.a.

3.2 Mixture

Terbutylazine	
Registration number (REACH)	--
Index	---
EINECS, ELINCS, NLP	227-637-9
CAS	CAS 5915-41-3
content %	25-30
Classification according to Directive 67/548/EEC	Dangerous for the environment, N, R50 Dangerous for the environment, R53
Classification according to Regulation (EC) 1272/2008 (CLP)	Aquatic Acute 1, H400 (M=10) Aquatic Chronic 1, H410 (M=10)

Bromoxynil (ISO)	
Registration number (REACH)	--
Index	608-006-00-0
EINECS, ELINCS, NLP	216-882-7
CAS	CAS 1689-84-5
content %	7-<25
Classification according to Directive 67/548/EEC	Toxic, T, R25 Very toxic, T+, R26 Sensitizing, R43 Dangerous for the environment, N, R50 Dangerous for the environment, R53 Toxic to reproduction, R63, Repr.Cat.3
Classification according to Regulation (EC) 1272/2008 (CLP)	Repr. 2, H361d Acute Tox. 1, H330 Acute Tox. 3, H301 Skin Sens. 1, H317 Aquatic Acute 1, H400 (M=10) Aquatic Chronic 1, H410 (M=10)

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.

SECTION 4: First aid measures

4.1 Description of first aid measures

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Inhalation

Remove person from danger area.

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

Respiratory arrest - Artificial respiration apparatus necessary.

Skin contact

Wash thoroughly using copious water - remove contaminated clothing immediately. If skin irritation occurs (redness etc.), consult 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.

Call doctor immediately - have Data Sheet available.

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

n.c.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Adapt to the nature and extent of fire.

Unsuitable extinguishing media

None known

5.2 Special hazards arising from the substance or mixture

In case of fire the following can develop:

Oxides of carbon

Cyanides

Oxides of nitrogen

Halogenated compounds

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.

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Avoid inhalation, and 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) and dispose of according to Section 13.

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.
Separate storage of protective clothing.
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.
Protect from frost.

7.3 Specific end use(s)

No information available at present.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

GB	Chemical Name	Content %:
	Propane-1,2-diol	

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WEL-TWA: 150 ppm (474 mg/m3) (total, vapour and particulates), 10 mg/m3 (particulates)	WEL-STEL: ---	---
BMGV: ---	Other information: ---	

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.

Propane-1,2-diol						
Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	168	mg/m3	
Workers / employees	Human - inhalation	Long term, local effects	DNEL	10	mg/m3	
Consumer	Human - dermal	Long term, systemic effects	DNEL	213	mg/kg	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	50	mg/m3	
Consumer	Human - oral	Long term, systemic effects	DNEL	85	mg/kg	
Consumer	Human - inhalation	Long term, local effects	DNEL	10	mg/m3	
	Environment - freshwater		PNEC	260	mg/l	
	Environment - marine		PNEC	26	mg/l	
	Environment - sewage treatment plant		PNEC	2000	mg/l	
	Environment - sediment, freshwater		PNEC	572	mg/kg	
	Environment - sediment, marine		PNEC	57,2	mg/kg	
	Environment - soil		PNEC	50	mg/kg	
	Environment - water, sporadic (intermittent) release		PNEC	183	mg/l	

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



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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 (EN 166) with side protection, with danger of projections.

Skin protection - Hand protection:
Chemical resistant protective gloves (EN 374).
If applicable
Protective nitrile gloves (EN 374)
Minimum layer thickness in mm:
0,4
Permeation time (penetration time) in minutes:
> 480
The breakthrough times determined in accordance with EN 374 Part 3 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.
If OES or MEL is exceeded.
Filter A 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

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Colour:	White
Odour:	Characteristic
Odour threshold:	Not determined
pH-value:	4,2 (1 %, CIPAC MT 75.3)
pH-value:	5,4 (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:	Not determined
Upper explosive limit:	Not determined
Vapour pressure:	Not determined
Vapour density (air = 1):	Not determined
Density:	1,178 g/ml (CIPAC MT 3.1)
Bulk density:	n.a.
Solubility(ies):	Not determined
Water solubility:	Suspension
Partition coefficient (n-octanol/water):	Not determined
Auto-ignition temperature:	>600 °C (Regulation (EC) 440/2008 A.15. (AUTO-IGNITION TEMPERATURE (LIQUIDS AND GASES)), Analogous conclusion)
Decomposition temperature:	Not determined
Viscosity:	213 mPas (20°C, OECD 114 (Viscosity of Liquids), (shear rate 18,3 s ⁻¹))
Viscosity:	70 mPas (20°C, OECD 114 (Viscosity of Liquids), (shear rate 110 s ⁻¹))
Viscosity:	208 mPas (40°C, OECD 114 (Viscosity of Liquids), (shear rate 18,3 s ⁻¹))
Viscosity:	68 mPas (40°C, OECD 114 (Viscosity of Liquids), (shear rate 110 s ⁻¹))
Explosive properties:	Product is not explosive.
Oxidising properties:	No
9.2 Other information	
Miscibility:	Not determined
Fat solubility / solvent:	Not determined
Conductivity:	Not determined
Surface tension:	32,2 mN/m (1 %, 25°C, Regulation (EC) 440/2008 A.5. (SURFACE TENSION))
Solvents content:	Not determined

SECTION 10: Stability and reactivity

10.1 Reactivity

This product is not reactive based on experiences.

10.2 Chemical stability

Stable with proper storage and handling.

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10.3 Possibility of hazardous reactions

Hazardous reactions will not occur during storage and handling under normal conditions.

10.4 Conditions to avoid

Protect from frost.

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).

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Toxicity/effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	>942	mg/kg	Rat	OECD 401 (Acute Oral Toxicity)	
Acute toxicity, by dermal route:	LD50	>2000	mg/kg	Rat	OECD 402 (Acute Dermal Toxicity)	
Acute toxicity, by inhalation:	LC50	2,57	mg/l/4h	Rat	OECD 403 (Acute Inhalation Toxicity)	
Skin corrosion/irritation:				Rat	OECD 404 (Acute Dermal Irritation/Corrosion)	Not irritant
Serious eye damage/irritation:				Rabbit	OECD 405 (Acute Eye Irritation/Corrosion)	Irritant
Respiratory or skin sensitisation:				Guinea pig	OECD 406 (Skin Sensitisation)	Yes (skin contact)
Germ cell mutagenicity:						n.d.a.
Carcinogenicity:						n.d.a.
Reproductive toxicity:						Classification according to calculation procedure.
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.

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Terbuthylazine						
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	Rabbit		
Acute toxicity, by inhalation:	LC50	>4,85	mg/l/4h	Rat		Maximum achievable concentration.
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
Carcinogenicity:						Negative
Reproductive toxicity:						Negative

Bromoxynil (ISO)						
Toxicity/effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	177	mg/kg	Rat		
Acute toxicity, by dermal route:	LD50	>2000	mg/kg	Rabbit		
Acute toxicity, by inhalation:	LC50	>5,1	mg/l/4h	Rat		Does not conform with EU classification.
Skin corrosion/irritation:				Rabbit		Not irritant
Symptoms:						breathing difficulties, diarrhoea, thirst, fever, headaches, gastrointestinal disturbances, shock, watering eyes, nausea and vomiting.

Propane-1,2-diol						
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	Rabbit		
Acute toxicity, by inhalation:	LC50	317,042	mg/l/2h	Rabbit		
Skin corrosion/irritation:				Rabbit	(Draize-Test)	Not irritant
Serious eye damage/irritation:				Rabbit	OECD 405 (Acute Eye Irritation/Corrosion)	Not irritant
Respiratory or skin sensitisation:				Guinea pig		Not sensitising



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Respiratory or skin sensitisation:				Human being		Not sensitizing
Germ cell mutagenicity:					OECD 471 (Bacterial Reverse Mutation Test)	Negative
Germ cell mutagenicity:					OECD 476 (In Vitro Mammalian Cell Gene Mutation Test)	Negative
Symptoms:						eyes, reddened, mucous membrane irritation, dizziness, watering eyes, nausea

SECTION 12: Ecological information

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

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Toxicity/effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
Toxicity to fish:	LC50	96h	13	mg/l	Oncorhynchus mykiss	OECD 203 (Fish, Acute Toxicity Test)	
Toxicity to daphnia:	EC50	48h	47,2	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
Toxicity to algae:	EyC50	72h	0,0475	mg/l	Pseudokirchnerie lla subcapitata	OECD 201 (Alga, Growth Inhibition Test)	
Toxicity to algae:	ErC50	72h	0,1648	mg/l	Pseudokirchnerie lla subcapitata	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:	ErC50	7d	0,0679	mg/l	Lemna gibba	OECD 221 (Lemna sp. Growth Inhibition Test)	



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Other organisms:	EyC50	7d	0,034 6	mg/l	Lemna gibba	OECD 221 (Lemna sp. Growth Inhibition Test)	
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Terbuthylazine							
Toxicity/effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
Toxicity to fish:	LC50	96h	3,8- 4,6	mg/l	Oncorhynchus mykiss		
Toxicity to daphnia:	EC50	48h	21,2	mg/l	Daphnia magna		
Toxicity to algae:	EC50	72h	0,016	mg/l			
Toxicity to insects:					Apis mellifera		Not relevant.

Bromoxynil (ISO)							
Toxicity/effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
Toxicity to fish:	LC50	96h	29,2	mg/l	Lepomis macrochirus		
Toxicity to algae:	EC50	96h	1,7	mg/l	Selenastrum capricornutum		
Bioaccumulative potential:	Log Pow		<2				A notable biological accumulation potential is not to be expected (LogPow 1-3).

Propane-1,2-diol							
Toxicity/effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
Toxicity to fish:	LC50	96h	>1000	mg/l	Pimephales promelas	OECD 203 (Fish, Acute Toxicity Test)	
Toxicity to daphnia:	EC50	48h	>1000	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
Toxicity to algae:	EC50	72h	>1000	mg/l	Selenastrum capricornutum	OECD 201 (Alga, Growth Inhibition Test)	
Persistence and degradability:		28d	81	%		OECD 301 F (Ready Biodegradability - Manometric Respirometry Test)	
Persistence and degradability:		28d	87-92	%		OECD 301 C (Ready Biodegradability - Modified MITI Test (I))	



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Bioaccumulative potential:	BCF		<100				
Results of PBT and vPvB assessment							n.a.
Toxicity to bacteria:	EC50	3h	>1000	mg/l	activated sludge		
Toxicity to bacteria:	IC50	30min	>1000	mg/l	activated sludge	OECD 209 (Activated Sludge, Respiration Inhibition Test (Carbon and Ammonium Oxidation))	
Other information:	COD		1,585	mg/g			
Water solubility:							Mixable

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)

02 01 08 agrochemical waste containing dangerous substances

20 01 19 pesticides

Recommendation:

Pay attention to local and national official regulations

E.g. suitable incineration plant.

Waste needs special observation measures (according to Waste Types Catalogue).

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.

SECTION 14: Transport information

General statements

UN number: 3082

Transport by road/by rail (ADR/RID)

UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (TERBUTHYLAZINE, BROMOXYNIL)

Transport hazard class(es): 9

Packing group: III

Classification code: M6

LQ (ADR 2009): 7

Environmental hazards: environmentally hazardous



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Tunnel restriction code: E

Transport by sea (IMDG-code)

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (TERBUTHYLAZINE,BROMOXYNIL)

Transport hazard class(es): 9

Packing group: III

EmS: F-A, S-F

Marine Pollutant: Yes

Environmental hazards: environmentally hazardous



Transport by air (IATA)

Environmentally hazardous substance, liquid, n.o.s. (TERBUTHYLAZINE,BROMOXYNIL)

Transport hazard class(es): 9

Packing group: III

Environmental hazards: environmentally hazardous

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

National rules/regulation for the compliance with maximum quantities with regard to phosphates and or phosphorous compounds must be observed and complied with.

Observe restrictions:

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

These details refer to the product as it is delivered.

Revised sections:

n.a.

Observe plant protection medium law.

ID MAC-93410-H

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

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Classification in accordance with regulation (EC) No. 1272/2008 (CLP)	Evaluation method used
Acute Tox. 4, H332	Classification according to calculation procedure.
Acute Tox. 4, H302	Classification according to calculation procedure.
Eye Irrit. 2, H319	Classification according to calculation procedure.
Skin Sens. 1, H317	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).

20/22 Harmful by inhalation and if swallowed.

25 Toxic if swallowed.

25 Also toxic if swallowed.

26 Very toxic by inhalation.

36 Irritating to eyes.

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.

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.

H301 Toxic if swallowed.

H317 May cause an allergic skin reaction.

H330 Fatal if inhaled.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

Acute Tox. — Acute toxicity - inhalation

Acute Tox. — Acute toxicity - oral

Eye Irrit. — Eye irritation

Skin Sens. — Skin sensitization

Repr. — Reproductive toxicity

Aquatic Chronic — Hazardous to the aquatic environment - chronic

Aquatic Acute — Hazardous to the aquatic environment - acute

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)

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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

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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



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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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