

Safety Data Sheet

Glydant Plus liquid

Version: 03.08.2007 / EN

1. Identification of the substance/preparation and of the company/undertaking

Trade name : Glydant Plus liquid

Company : Lonza Ltd
Muenchensteinerstrasse 38
CH-4002 Basel, Switzerland
Telephone: +41 61 316 81 11

Emergency telephone : Lonza Ltd, CH-4002 Basel, Switzerland
Telephone: +41 61 313 94 94 (24h)

Contact person : prodinfo@lonza.com

2. Hazards identification

Classification

Harmful by inhalation.
Very toxic to aquatic organisms.

3. Composition/information on ingredients

Components / EC Label	Concentration
DMDM Hydantoin (mixture, no CAS-No.)	ca. 70 %
3-Iodo-2-propynyl butylcarbamate (CAS-No.: 55406-53-6) (EEC-No.: 259-627-5) Xn, N; R20/22, R41, R50	<= 2,8 %
Butane-1,3-diol (CAS-No.: 107-88-0) (EEC-No.: 203-529-7)	ca. 4,5 %
Formaldehyde (CAS-No.: 50-00-0) (EEC-No.: 200-001-8) T; R23/24/25, R34, R40, R43	<= 0,09 % (*)
Water (CAS-No.: 7732-18-5) (EEC-No.: 231-791-2)	ca. 23 %

R-phrase(s) see chapter 16

(*) Components with workplace control parameters see chapter 8

Safety Data Sheet

Glydant Plus liquid

Version: 03.08.2007 / EN

4. First aid measures

- | | | |
|--------------|---|--|
| Inhalation | : | Remove to fresh air. If breathing is irregular or stopped, administer artificial respiration. |
| Skin contact | : | After contact with skin, wash immediately with plenty of soap and water. Consult a physician. |
| Eye contact | : | In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Call a physician immediately. |
| Ingestion | : | Call a physician immediately. Clean mouth with water and drink afterwards plenty of water. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. |

5. Fire-fighting measures

- | | | |
|--|---|--|
| Suitable extinguishing media | : | Water spray, Dry powder, Foam |
| Specific hazards during fire fighting | : | Heating or fire can release toxic gas. |
| Special protective equipment for fire-fighters | : | In the event of fire, wear self-contained breathing apparatus. |
| Additional advice | : | Use water spray to cool unopened containers. |

6. Accidental release measures

- | | | |
|---------------------------|---|--|
| Personal precautions | : | Use respirator when performing operations involving potential exposure to vapour of the product. |
| Environmental precautions | : | Do not flush into surface water or sanitary sewer system. |
| Methods for cleaning up | : | Sweep up or vacuum up spillage and collect in suitable container for disposal. |

Safety Data Sheet

Glydant Plus liquid

Version: 03.08.2007 / EN

7. Handling and storage

Handling

Safe handling advice: : Avoid contact with skin and eyes. Provide sufficient air exchange and/or exhaust in work rooms.

Advice on protection against fire and explosion : Take precautionary measures against static discharges.

Storage

Requirements for storage areas and containers : Keep container tightly closed. To maintain product quality, do not store in heat or direct sunlight. Keep in a dry, cool and well-ventilated place.

Other data : Keep only in the original container.

8. Exposure controls / personal protection

Components with workplace control parameters

Formaldehyde (CAS-No. 50-00-0):

Switzerland SUVA Limit Values (2007)

Exposure limit(s) : 0,3 ml/m³ 0,37 mg/m³
S (Sensitizer)
Damage to fetus unlikely if the occupational exposure limit values are not exceeded., Carcinogenicity: group 3

Short term exposure limit : 0,6 ml/m³ ; 0,74 mg/m³
4 times 15 min. per shift

DFG-MAK/BAT/TRK-Value-List Germany (2006)

Exposure limit(s) : 0,3 ml/m³ 0,37 mg/m³
Carcinogenicity: group 4
Damage to fetus unlikely if the occupational exposure limit values are not exceeded., mutagenic effects: group 5, May cause sensitization by skin contact.

Short term exposure limit : Peak-limit category: I(2)

US ACGIH (2005)

Exposure limit(s) : Carcinogenicity: group A2
S (Sensitizer)

Maximum limit value: : 0,3 ml/m³

IDLH value : 20 ppm

Safety Data Sheet

Glydant Plus liquid

Version: 03.08.2007 / EN

Personal protective equipment

Hygiene measures	:	Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes and clothing.
Respiratory protection	:	Use respirator when performing operations involving potential exposure to vapour of the product.
Hand protection	:	Wear suitable gloves.
Eye protection	:	Wear eye/face protection.
Skin and body protection	:	Wear suitable protective clothing and gloves.

9. Physical and chemical properties

Appearance

State of aggregation	:	liquid
Colour	:	clear
Odour	:	formaldehyde

Safety data

pH	:	6 - 8
Melting point/range	:	no data available
Boiling point/boilingrange	:	no data available
Flash point	:	> 93 °C
Ignition temperature	:	no data available
Upper explosion limit	:	no data available
Lower explosion limit	:	no data available
Vapour pressure	:	no data available
Density	:	1,19 g/cm ³
Water solubility	:	completely soluble
Viscosity, dynamic	:	no data available

Safety Data Sheet

Glydant Plus liquid

Version: 03.08.2007 / EN

Relative vapour density : no data available
Evaporation rate (Volatility) : no data available

10. Stability and reactivity

Conditions to avoid: : Avoid temperatures above 90°C.
Materials to avoid : Strong acids, Alkali metals
Hazardous decomposition products : nitrogen oxides (NOx), Carbon oxides
Hazardous reactions : Stable under normal conditions.

11. Toxicological information

Acute oral toxicity (LD50) : 3 141 mg/kg
Species: rat
Method: FIFRA
Acute inhalation toxicity (LC50) : ca. 2 mg/l
Species: rat
Exposure time: 4 h
Method: FIFRA
Acute dermal toxicity (LD50) : > 2 000 mg/kg
Species: rabbit
Exposure time: 24 h
Method: FIFRA
Skin irritation : moderate irritant
Species: rabbit
Exposure time: 4 h
Method: FIFRA
Eye irritation : moderate irritant
Species: rabbit
Method: FIFRA
Sensitisation : not sensitizing
Species: guinea pig
Buehler Test
Method: FIFRA

Safety Data Sheet

Glydant Plus liquid

Version: 03.08.2007 / EN

12. Ecological information

The following ecotoxicological data refer to:

DMDM Hydantoin

Ecotoxicity effects

- Toxicity to fish (LC50) : > 82,3 mg/l
Species: Brachydanio rerio (zebra fish)
Acute toxicity
Exposure time: 96 h
Method: OECD Test Guideline 203
- Toxicity to daphnia (EC50) : 20,4 mg/l
Species: Daphnia magna (Water flea)
Immobilization
Exposure time: 96 h
- Toxicity to daphnia (EC50) : 29,1 mg/l
Species: Daphnia magna (Water flea)
Immobilization
Exposure time: 48 h
Method: OECD Test Guideline 202
- Toxicity to algae (ErC50) : 12 mg/l
Species: Desmodesmus subspicatus
Growth inhibition
Exposure time: 72 h
Method: OECD Test Guideline 201
- Toxicity to bacteria (EC50) : > 100 mg/l
Species: activated sludge
Respiration inhibition
Exposure time: 3 h
Method: OECD 209

Safety Data Sheet

Glydant Plus liquid

Version: 03.08.2007 / EN

Mobility

Behaviour in environmental compartments : Adsorption/Soil
highly mobile
Method: calculated

Persistence and degradability

Stability in water : Abiotic degradation
hydrolytically degradable
Degradation half life t1/2: < 1 d
pH: 7

Biodegradability : Die-Away Test: 95 %
Readily biodegradable.
Testing period: 28 d
Method: OECD 301 A

3-Iodo-2-propynyl butylcarbamate (CAS-No.: 55406-53-6)

Ecotoxicity effects

Toxicity to fish (LC50) : 0,067 mg/l
Species: Oncorhynchus mykiss (rainbow trout)
Acute toxicity
Exposure time: 96 h
Method: FIFRA

Toxicity to fish (LC50) : 0,23 mg/l
Species: Bluegill sunfish
Acute toxicity
Exposure time: 96 h
Method: FIFRA

Toxicity to daphnia (EC50) : 0,65 mg/l
Species: Daphnia magna (Water flea)
Immobilization
Exposure time: 48 h
Method: FIFRA

Biodegradability : Readily biodegradable.

Bioaccumulative potential

Bioaccumulation : Does not bioaccumulate.
Bioconcentration factor (BCF): 3,30 - 4,50
Species: Cyprinus carpio (Carp)
Exposure time: 8 Weeks
Method: OECD 305

Safety Data Sheet

Glydant Plus liquid

Version: 03.08.2007 / EN

13. Disposal considerations

- Waste from residues : Dispose of in compliance with all federal, state and local laws and regulations.
- Contaminated packaging : Where possible recycling is preferred to disposal or incineration.

14. Transport information

- ADR : Class: 9
Packaging group: III
Classification Code: M6
Labels: Miscellaneous dangerous substances and articles No. 9
Hazard identification No : 90
- UN/ID No. : UN 3082
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(3-Iodo-2-propynyl butylcarbamate)
- RID : Class: 9
Packaging group: III
Classification Code: M6
Labels: Miscellaneous dangerous substances and articles No. 9
Hazard identification No : 90
- UN/ID No. : UN 3082
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(3-Iodo-2-propynyl butylcarbamate)
- IATA Cargo : Class: 9
Packaging group: III
Labels: Miscellaneous dangerous substances and articles No. 9
Packing instruction (cargo aircraft): 914
- UN/ID No. : UN 3082
Proper shipping name : Environmentally hazardous substance, liquid, n.o.s.
(3-Iodo-2-propynyl butylcarbamate)

Safety Data Sheet

Glydant Plus liquid

Version: 03.08.2007 / EN

IATA Passenger : Class: 9
Packaging group: III
Labels: Miscellaneous dangerous substances
and articles No. 9
Packing instruction (passenger and cargo aircraft): 914
UN/ID No. : UN 3082
Proper shipping name : Environmentally hazardous substance, liquid, n.o.s.
(3-Iodo-2-propynyl butylcarbamate)

IMDG-Code : Class: 9
Packaging group: III
Labels: Miscellaneous dangerous substances
and articles No. 9
EmS: F-A , S-F
UN/ID No. : UN 3082
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,
N.O.S.
(3-Iodo-2-propynyl butylcarbamate)

49 CFR : Not dangerous goods

TDG : Class: 9
Packaging group: III
Labels: Miscellaneous dangerous
substances and articles No. 9
UN/ID No. : UN 3082
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,
N.O.S.
(3-Iodo-2-propynyl butylcarbamate)

Safety Data Sheet

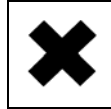
Glydant Plus liquid

Version: 03.08.2007 / EN

15. Regulatory information

Additional advice : Classification and labelling according to Directive 1999/45/EC.

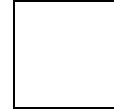
Symbol(s) :



Irritant



Dangerous for the environment



R-phrase(s)

R20: Harmful by inhalation.
R50: Very toxic to aquatic organisms.

S-phrase(s)

S23: Do not breathe vapour.
S61: Avoid release to the environment. Refer to special instructions/
Safety data sheets.

National legislation

Water contaminating class (Germany) : WGK 2: water endangering

16. Other information

Other regulations : The components of this product are reported in the following inventories: EINECS, TSCA.

Safety Data Sheet

Glydant Plus liquid

Version: 03.08.2007 / EN

R-phrases(s)

R20/22	: Harmful by inhalation and if swallowed.
R23/24/25	: Toxic by inhalation, in contact with skin and if swallowed.
R34	: Causes burns.
R40	: Limited evidence of a carcinogenic effect.
R41	: Risk of serious damage to eyes.
R43	: May cause sensitization by skin contact.
R50	: Very toxic to aquatic organisms.

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

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.