

Safety data sheet in accordance with 2001/58/EC

Antifrogen N

Page 1

Substance key: SXR024717
Version : 1 - 35 / EURevision Date: 06.03.2007
Date of printing : 06.03.2007

1. Identification of the substance/preparation and company

Trade name**Antifrogen N****Use of the substance/preparation.**Industry sector : Functional Fluids
Type of use : Brine for refrigeration**Identification of the company**Clariant Produkte (Deutschland) GmbH
CM-Deutschland
Brueningstr. 50
65929 Frankfurt am Main
Telephone no. : +49 6196 757 60**Information about the substance/preparation**Division Functional Chemicals
++49(0)69-305-2092/15315/32251**Emergency telephone number** : +49 69 305 6418

2. Composition/information on ingredients

Chemical characterization

Monoethylene glycol (1,2-ethane diol) with inhibitors

Hazardous ingredients

Ethandiol			
Concentration :	90 - 95 %		
CAS number :	107-21-1		
EINECS number :	203-473-3		
Hazard symbols	Xn		
R phrases	22		
Sodium nitrite			
Concentration :	< 0,5 %		
CAS number :	7632-00-0		
EINECS number :	231-555-9		
Hazard symbols	O	T	N
R phrases	8	25	50
Potassium nitrite			
Concentration :	< 0,2 %		
CAS number :	7758-09-0		
EINECS number :	231-832-4		
Hazard symbols	O	T	N
R phrases	8	25	50

3. Hazards identification

Harmful if swallowed.

Safety data sheet in accordance with 2001/58/EC

Antifrogen N

Page 2

Substance key: SXR024717
Version : 1 - 35 / EU

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4. First aid measures

General information

Remove soiled or soaked clothing immediately

After inhalation

In the event of symptoms seek medical advice.

After contact with skin

In case of contact with skin wash off immediately with plenty of water

After contact with eyes

In case of contact with eyes rinse thoroughly with plenty of water and seek medical advice

After ingestion

Summon a doctor immediately.

5. Fire-fighting measures

Suitable extinguishing media

water spray jet
alcohol-resistant foam
carbon dioxide
dry powder

Special hazards from the substance itself, its combustion products or from its vapours

In case of fires, hazardous combustion gases are formed: Carbon monoxide (CO)
Nitrous gases (NO_x)

Special protective equipment for firefighting

Use self-contained breathing apparatus

6. Accidental release measures

Personal precautions

Ensure adequate ventilation.
Wear suitable personal protective equipment.

Environmental precautions

Do not allow to enter drains or waterways

Methods for cleaning up/taking up

Pick up with absorbent material (eg sand, kieselgur, acid binder, universal binder, sawdust).
Dispose of as prescribed

7. Handling and storage

Advice on safe handling

Open and handle container with care.
Provide good ventilation of working area (local exhaust ventilation if necessary).

Advice on protection against fire and explosion

Observe the general rules of industrial fire protection

Safety data sheet in accordance with 2001/58/EC

Antifrogen N

Substance key: SXR024717
Version : 1 - 35 / EU

Revision Date: 06.03.2007
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Advice on storage compatibility

- Do not store with alkalies
- Do not store with strong oxidizing agents

8. Exposure controls/personal protection

Ingredients with occupational exposure limits to be monitored

ETHYLENE GLYCOL

CAS number : 107-21-1

EU. Indicative Exposure and Directives relating to the protection of risks related to work exposure to chemical, physical, and biological agents.

EU Exposure Limit Values Data

Revision : 07 2000

Time Weighted Average (TWA):

Values: 52 mg/m³ 20 ppm

ETHYLENE GLYCOL

CAS number : 107-21-1

EU. Indicative Exposure and Directives relating to the protection of risks related to work exposure to chemical, physical, and biological agents.

EU Exposure Limit Values Data

Revision : 07 2000

Skin designation:

Can be absorbed through the skin.

General protective measures

- Do not inhale vapours
- Avoid contact with eyes and skin

Hygiene measures

- Keep away from foodstuffs and beverages.

Respiratory protection :

Use respiratory protection in case of insufficient exhaust ventilation or prolonged exposure
Full mask to standard DIN EN 136
Filter A (organic gases and vapours) to standard DIN EN 141
The use of filter apparatus presupposes that the environment atmosphere contains at least 17% oxygen by volume, and does not exceed the maximum gas concentration, usually 0.5% by volume. Relevant guidelines to be considered include EN 136/141/143/371/372 as well as other national regulations.

Hand protection :

For long-term exposure:
Butyl rubber gloves
Minimum breakthrough time / gloves : 480 min
Minimum thickness / gloves 0,7 mm

For short-term exposure (splash protection):
Nitrile rubber gloves.
Minimum breakthrough time / gloves : 30 min
Minimum thickness / gloves 0,4 mm

Safety data sheet in accordance with 2001/58/EC

Antifrogen N

Substance key: SXR024717
Version : 1 - 35 / EU

Revision Date: 06.03.2007
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These types of protective gloves are offered by various manufacturers. Please note the manufacturers' detailed statements, especially about the minimum thickness and the minimum breakthrough time. Consider also the particular working conditions under which the gloves are being used.

Eye protection : safety glasses

9. Physical and chemical properties

Form :	Liquid
Colour :	light yellow
Odour :	perceptible
Pourpoint :	approx. -70 °C Method : DIN 51583
Boiling temperature :	approx. 170 °C (1.013 mbar) Method : ASTM D 1120
Flash point :	approx. 120 °C Method : DIN 51758 (closed cup)
Ignition temperature :	approx. 410 °C Method : DIN 51794
Oxidizing properties :	Not applicable
Self-ignition temperature :	not self-igniting
Lower explosion limit :	3 %(V)
Upper explosion limit :	not tested.
Evaporation rate :	not tested.
Vapour pressure :	< 0,1 mbar (20 °C) Method : Calculated by Syracuse.
Density :	approx. 1,14 g/cm ³ (20 °C) Method : DIN 51757
Bulk density :	Not applicable
Vapour density in relation to air :	not tested.
Solubility in water :	(20 °C) miscible in all proportions
Soluble in ... :	fat not tested.
pH value :	8 - 9 (20 °C, 300 g/l) Method : DIN EN 1262
Octanol/water partition coefficient (log Pow) :	Not applicable

Safety data sheet in accordance with 2001/58/EC
Antifrogen N

Page 5

Substance key: SXR024717
Version : 1 - 35 / EURevision Date: 06.03.2007
Date of printing : 06.03.2007**Viscosity (kinematic) :** 26 - 29 mm²/s (20 °C)
Method : DIN 51562**Combustion number :** Not applicable**Further information**
The product is hygroscopic.**10. Stability and reactivity****Thermal decomposition :** approx. 260 °C
Method : DSC**Hazardous reactions**
Reactions with alkalis.
Reactions with oxidising agents.**11. Toxicological information****Acute oral toxicity :** LD50 4.000 mg/kg (rat)
Source : IUCLID
Information based on the main component.**Acute inhalation toxicity :** not tested.**Acute dermal toxicity :** not tested.**Irritant effect on skin :** non-irritant**Irritant effect on eyes :** slightly irritant**Sensitization :** not tested.**Mutagenicity :** not tested.**Remarks**Vapours and mists cause irritation/burns to eyes and the respiratory tract
There is a possibility of kidney damage
Poisoning affects the central nervous system**12. Ecological information****Biodegradability :** 90 %
good degradability
Method : Zahn-Wellens test**Fish toxicity :** LC50 1.500 mg/l (golden orfe)**Remarks**

If handled correctly it causes no disturbance in treatment plants.

13. Disposal considerations

Safety data sheet in accordance with 2001/58/EC

Antifrogen N

Page 6

Substance key: SXR024717
Version : 1 - 35 / EU

Revision Date: 06.03.2007
Date of printing : 06.03.2007

Product

In accordance with local authority regulations, take to special waste incineration plant

14. Transport information

ADR	not restricted
ADNR	not restricted
RID	not restricted
IATA	not restricted
IMDG	not restricted

15. Regulatory information

Labelling in accordance with EC-Directives

hazard warning labelling compulsory

Classification according to the calculation procedure of the Dangerous Preparations Directive (1999/45/EC).

Hazard symbols

Xn Harmful

Hazardous component(s) to be indicated on label

Ethanediol

R phrases

22 Harmful if swallowed.

S phrases

2 Keep out of the reach of children.
24/25 Avoid contact with skin and eyes.

16. Other information

Text of the R-phrases which are allocated to the ingredients/components mentioned in section 2 of this Safety Data Sheet.

22	Harmful if swallowed.
25	Toxic if swallowed.
50	Very toxic to aquatic organisms.
8	Contact with combustible material may cause fire.

Decimal notation: "Thousands" places are identified with a dot (example: 2.000 mg/kg means "two thousand mg/kg"). Decimal places are identified with a comma (example: 1,35 g/cm³).

The data are based on the current state of our knowledge, and are intended to describe the product with regard to the requirements of safety. The data should not be taken to imply any guarantee of a particular or general specification. It is the responsibility of the user of the product to ensure to his satisfaction that the product is suitable for the intended purpose and

Safety data sheet in accordance with 2001/58/EC
Antifrogen N

Page 7

Substance key: SXR024717
Version : 1 - 35 / EU

Revision Date: 06.03.2007
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