

Safety Data Sheet

Product:

Frisin[®]

Page: 1/2

MSDS Nr: 0558/en

Version: 2.10

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1 IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY

MSDS Nr 0558/en
Product name Frisin[®]
Company identification Air Liquide Deutschland GmbH
Telephone 0211/6699-0
Telefax 0211/6699-222
Street Hans-Günther-Sohl-Straße 5
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Emergency phone numbers 02151/398668

2 COMPOSITION/INFORMATION ON INGREDIENTS

Substance/Preparation Preparation

Components/Impurities
Contains the following components:
1,7% Phosphin [F+;R12-17|T+;R26|C;R34|N;R50],
rest Nitrogen

In ISO10156 the T_{ci} value of Phosphine is listed as $T_{ci} = 1,2\%$. Experiments at BAM (Bundesanstalt für Materialforschung und -prüfung) showed that for Phosphine in Nitrogen a T_{ci} value of 1,7% can be used safely.

Note: the use of these value of 1,7% is restricted to Germany only.

EEC Nr (from EINECS) Not applicable for preparations

3 HAZARDS IDENTIFICATION

Hazards identification
Compressed gas. Very toxic by inhalation. Irritating to eyes, respiratory system and skin.

4 FIRST AID MEASURES

Inhalation
Very toxic by inhalation. Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Call a doctor. Apply artificial respiration if breathing stopped.

Skin/eye contact
Remove contaminated clothing.

Ingestion
Ingestion is not considered a potential route of exposure.

5 FIRE FIGHTING MEASURES

Specific hazards
Non flammable. Exposure to fire may cause containers to rupture/explode.

Suitable extinguishing media
All known extinguishants can be used.

Specific methods

If possible, stop flow of product. Move container away or cool with water from a protected position.

Special protective equipment for fire fighters

Use self-contained breathing apparatus and chemically protective clothing.

6 ACCIDENTAL RELEASE MEASURES

Personal precautions

Evacuate area. Ensure adequate air ventilation. Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe.

Environmental precautions

Try to stop release.

Clean up methods

Ventilate area.

7 HANDLING AND STORAGE

Handling

Suck back of water into the container must be prevented. Do not allow backfeed into the container. Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Contact your gas supplier if in doubt. Refer to supplier's container handling instructions. Secure gas cylinder against overturning.

Storage

Keep container below 50 °C in a well ventilated place. Secure gas cylinder against overturning.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure limit value -TLV(ACGIH)

pure Phosphine
0.3 ppm (1995-1996 edition)

Exposure limit value for country

pure Phosphine
CAS-Nr. 7803-51-2
Great Britain: STEL: 0.3 ppm (EH 40/95)
France: VLE: 0.3 ppm, VME: 0.1 ppm
Germany: MAK: 0,1 ppm

Personal protection

Ensure adequate ventilation. Do not smoke while handling product. Keep self contained breathing apparatus readily available for emergency use.

9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance/Colour
Odour

Colourless gas
Garlic like. Poor warning properties at low concentrations.

Physical state at 20 °C
Relative density, gas

comp. gasmixture
leichter als Luft

10 STABILITY AND REACTIVITY

Stability and reactivity
Stable under normal conditions. May react violently with oxidants.

11 TOXICOLOGICAL INFORMATION

General
Damage to central nervous system. Delayed fatal pulmonary edema possible.

LC50/1h (ppm) pure Phosphine: 20 ppm

12 ECOLOGICAL INFORMATION

General
May cause pH changes in aqueous ecological systems.
Toxic to water organisms.

13 DISPOSAL CONSIDERATIONS

General
Avoid discharge to atmosphere. Do not discharge into any place where its accumulation could be dangerous. Contact supplier if guidance is required.

code of waste (EWC)
16 05 04 gases in pressure containers (including halons) containing dangerous substances

14 TRANSPORT INFORMATION**Land transport**

• *ADR/RID:*
Class: 2
Classification-code: 1T
Hazard identification No: 26
UN-Nr.: 1955
Label: 2.3
Description of the goods: Compressed gas, toxic, n.o.s.

Sea transport

• *IMDG:*
Class: 2.3
UN-Nr.: 1955
Label: 2.3
EmS: F-C, S-U
Description of the goods: Compressed gas, toxic, n.o.s.

Air transport

• *ICAO/IATA-DGR:*
Class: 2.3
UN/ID-Nr.: UN 1955
Label: 2.3
Description of the goods: Compressed gas, toxic, n.o.s.

Other transport information

Only transport on vehicles where the load space is separated from the driver's compartment. Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency. Before transporting product containers ensure that they are firmly secured and:

- cylinder valve is closed and not leaking
- valve outlet cap nut or plug (where provided) is correctly fitted
- valve protection device (where provided) is correctly fitted
- there is adequate ventilation.
- compliance with applicable regulations.

15 REGULATORY INFORMATION

Number in Annex I of Dir 67/548
Not applicable for preparations

EC Classification
Proposed by the industry
T+, R26| Xn; 36/37/38

-Symbols T+: Very toxic
-R Phrases 26-36/37/38
-S Phrases 9-23-36-45

-Risk phrases
R26 Very toxic by inhalation.
R36/37/38 Irritating to eyes, respiratory system and skin.

-Safety phrases
S9 Keep container in well ventilated place.
S23 Do not breathe the gas.
S36 Wear suitable protective clothing.
S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

16 OTHER INFORMATION

Text of R phrases mentioned in Section 2

R12 Extremely flammable.
R17 Spontaneously flammable in air.
R26 Very toxic by inhalation
R34 Causes burns.
R50 Very toxic to aquatic organisms.

Ensure all national/local regulations are observed. Users of breathing apparatus must be trained. Ensure operators understand the toxicity hazard. Before using this product in any new process or experiment, a thorough material compatibility and safety study should be carried out. Details given in this document are believed to be correct at the time of going to press. Whilst proper care has been taken in the preparation of this document, no liability for injury or damage resulting from its use can be accepted.

Alterations or supplements compared to previous editions are marked by (*)