

Safety Data Sheet

according ordinance (EG) No. 1907/2006

GÜNTHER SCHAIDT SAFEX® -CHEMIE GMBH-SCHENEFELD

Trade name : **SAFEX-INSIDE NEBELFLUID - all variations**

Revision date : 03.11.11

Version : 1.01

Print date:

01. Identification of the substance/mixture and of the company/undertaking

Trade name

SAFEX-INSIDE NEBELFLUID - all variations -

Designation of the mixture

Generating artificial fog for Theater-, TV- and Motion Picture- and Show-productions, as well as for technical and scientific applications with SAFEX®-FOG-GENERATORS.

Manufacturer

GÜNTHER SCHAIDT SAFEX® -CHEMIE GMBH

Street / P.O. Box

Blankeneser Chaussee 26/32

Nat.-Code./ Postal code / City

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Contact for technical information

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Emergency telephone number:

040-83 92 110 (9:00 h - 17:30 h) or 040-83099560

02. Hazards identification

Hazard designation:

This mixture is **not classified as hazardous** according to 1999/45/EC.

Additional hazard notes for man and environment:

The vaporized product bears **no** health hazards or other deleterious substance-effects; however, an overdosed fog poses the risk to cover danger spots in the surroundings (risk of falling, bumping, stumble possible). There is also the possibility of a **on smooth surfaces*** when the fog is overdosed or if the none-vaporized product is spilled. (*Smooth plastic-, marble-, metallic surfaces, etc.)

Sensitive people can react to artificial fog with fright and fear and may develop psychosomatic reactions. Also asthmatics can react with fright and consequently with a substance independent asthmatic reaction.

A strong overdosed fog outdoors can create a traffic hazard.

03. Composition / information on ingredients

Chemical characterization

Aqueous solution of non-toxic, highly pure polyols.

Hazardous ingredients

Non, not even < 1%

Ratio: 0%

Classification : No classification and labeling required for the products.

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Components with EU limits:

ratio : Non
Classification : Not applicable

04. First aid measures

General information:

Due to decade-long experience with the product the occurrence of dangerous situations is not to expect. From forty years of manufacturing experience and the (international) medical literature/casuistry no cases are known in which emergency action was required.

Following inhalation:

No measures required, if the fog is generated appropriated in suitable and designated devices (e.g. SAFEX®-Fog Generators), because a hazard is not to expect.

Following skin contact:

Not vaporized product: Simply wash of with water, **nebulized/vaporized product:** No action required!

Following eye contact:

Not vaporized product: slight irritation, rinse with water or eye rinsing solution with the eyelids open, **nebulized / vaporized product:** No action required!

Following ingestion:

Small amounts practically non-toxic, only when larger amounts swallowed (e.g. in a suicide attempt) get medical help.

Notes for the doctor:

When ingested large quantities of **not vaporized, liquid preparation:** Treatment as for multivalent, low-toxic alcohols (kidney function). **Nebulized / vaporized product:** SAFEX® Fog is practically nontoxic. Due to the strong psychosomatic effect of fog (based on 40 years of experience also with completely non-toxic artificial fogs) disorders are sometimes to expect, especially with very sensitive people (possibly dramatized) but however, without serious illness value.

05. Fire fighting measures

Suitable extinguishing media:

Not vaporized and also the vaporized product is not flammable! Surrounding fire can be extinguished with virtually any extinguishing agent. Fight larger fire with alcohol resistant foam or water spray.

Unsuitable extinguishing media:

Alcohol-sensitive foam

Special hazards arising from the substance or mixture:

See comments below

Advice for fire-fighters:

When involving large amounts of fog fluid in a major fire event is self containing breathing equipment required, if not already used.

Additional information:

The water-containing fog produced with the product is not flammable.

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06. Accidental release measures:

Personal precautions, protective equipment and emergency procedures:

None required, if necessary wear household gloves when disposing.

Environmental precautions:

Do not let the product get into drink water sources

Methods and material for containment and cleaning up:

Take up spilled fluid with absorbent granules and dispose as household waste.

Other information:

Due to the viscosity of the fluid is given a slip hazard on smooth surfaces. The product can be easily removed or diluted to ineffectiveness with water (if necessary with detergent additive).

07. Handling and storage

Precautions for safe handling:

Use only the clean fog fluid without external additives and only in designated equipment. Avoid spilling, slip hazard, possibly direct in front of the fog outlet of the fog generators on smooth surfaces, particular in case of faulty operation or inadequate equipment.

Fire preventions:

There is no fire or explosion risk associated with storage and use of both, the vaporized and the not vaporized product

Other information:

This mixture is not classified as hazardous according to 1999/45/EC.

Conditions for safe storage:

Store at a cool place, away from heat sources and inaccessible to unauthorized access (children). Do not store together with fire promoting substances of the group 1 TRGS 515 (or reactive metal powders).

Requirements for storage rooms and containers

no specific

Storage class VCI : 10 – 13 (deduced from the ingredients)

Intended use:

Use only for the **generation of fog in appropriate devices**. Not determined for evaporating in open pans, or the like on hot surfaces etc. or in self made equipment. Do **not** direct the fog beam into open flames or on hot surfaces!

08. Exposure controls / Personal protection

Occupational exposure limits and/or biological limit values:

OEL (AGW) Germany:

Specification:	Not determined
Value:	Not determined
Peak limitation:	Not applicable
Embryotoxic:	By no means expected according to current specialist literature

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Indicative occupational exposure limit values of the EU:

Specification: Not determined
Short-term value (STEL): Not determined

Long -term value (8 h TWA): Not determined
Note "skin": Not determined

Exposure limit and control:

A limit is not defined, a **fog overdosing should be avoided** for worker protection reasons, (obstructed view etc.). Common indoor air concentrations in the artistic application field are usually between 5 - 50 mg/m³; in the field of technical applications usually between 25 - 250 mg/m³.

The fog production with the prolonged and dense fog generating fluids with an amount of ≥ 250 mg fluid per cubic meter of air, evenly distributed results in a fog with a visibility-reduction of about 3 m.

Personal protective equipment:

If necessary only for dealing with the not vaporized product.

Respiratory protection:

not required

Hand protection:

Glove material: ordinary household rubber gloves are sufficient
Layer thickness (mm): Not applicable
Penetration time (min): Not applicable

Eye / Face protection:

Not vaporized product: If necessary use safety glasses when decanting or refilling. **Vaporized product:** Not required, but the safety distance to the emerging, partly hot fog beam from the devices - described in there instruction manuals - has to be observed.

Body protection:

Not vaporized product: If necessary change heavily soaked clothes (long-term maceration conceivable). **Vaporized product:** Not required, but the safety distance to the emerging, partly hot fog beam from the devices - described in there instruction manuals - has to be observed.

Hygiene measures:

Observance of standard work hygiene when working with chemical agents. (Do not eat, drink, etc.)

Environmental protection measures:

Not required.

09. Physical and chemical properties:

Appearance:

Physical state: liquid
Color: Transparent and colorless or slightly reddish, greenish, bluish, yellowish.
Odour: Weak, pleasant, fragrant

Safety relevant basic data:

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Explosion risk:	No
Lower explosion limit:	Not applicable
Upper explosion limit:	Not applicable
Vapor pressure:	high
Density:	Varies, approximately 1.05
Flow time:	not determined
Water solubility:	completely
pH-value:	neutral
boiling point /-range:	not determinable/ approx. 100 – 280 °C
Flash point:	Aqueous solution, is not flammable
Ignition temperature:	not determinable without decomposition

10. Stability and reactivity:

Conditions to avoid:

Permanent warming, constant sunlight, open packaging (contamination by dust, etc.)

Incompatible materials:

hazardous chemicals such as acids, alkalis, reactive metal powders or strong oxidizing agents

Hazardous decomposition products:

Not to expect under normal, regular use. In case of surrounding fire the usual combustion gases, possibly aldehydes.

11. Toxicological information

Aqueous solution of high purity, very low toxic polyols (see below).

Information on toxicological effects of the non-vaporized product:

The oral LD50 value is for all ingredients $\geq 20\,000$ mg/kg BW lab animal (rat). An inhalation toxicity of all components was in several animal tests not observed, even after 8 hours in a saturated atmosphere (tested as individual components and combinations).

For the ingredients is very little systemic effect known to man (under non-extreme conditions) and also not to expect. A permanent injury is not to expect under normal conditions.

Ingestion: possible gastrointestinal disorders; resorptive effects only to be expect from doses, whose accidental ingestion under commercial conditions is irrelevant.

Slightly irritating to the eyes and the corneal epithelium: permanent damage is virtually to exclude (Rating results on testing of single substances on the rabbit eye).

Also on the skin (human and rabbit) the components and their concentrated solutions themselves act - even under occlusive conditions - only weak; usually not even irritating.

In a sensitization test with 20 % pure active ingredient in Vaseline on 25 subjects was a corresponding potential not detectable.

A resorptive-toxic effect is likely to be excluded even after massive dermal contact. Longer-term

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maceration after repeated contact is possible. In several tests on rabbits LD50 values of > 20 g / BW were found.

Even with exceptional professional exposure or accidental ingestion of small quantities, should such effects be ruled out for people.

For all of the ingredients a carcinogenic or mutagenic potential is not known in the scientific literature, they are also not classified as carcinogenic, mutagenic or toxic for reproduction in accordance with the notice of the BMAS according to § 21 section 4 GefStoffV.

Information on toxicological effects of the vaporized product:

Several years of inhalation exposure of employees to active ingredient-vapor concentrations from 0.3 to 0.6 ppm (in exceptional cases up to 2 ppm) have not resulted in diagnosable impairments.

Inhalation studies in humans with active ingredient-related vapors in ambient air in connection with sterilizing effects have also showed no evidence of damaging potential.

Inhalation: Vapors are likely tolerated - even when they reach the saturation concentration - without symptoms; through aerosols in the event of massive inhalation (according to findings from animal studies) possibly mild respiratory irritations, blepharospasm's and mild resorptive effects.

The 4-hour LC50 value in rats was about 835 ppm.

Aerosols of 10 % aqueous solutions were largely precipitated in the nasopharynx and swallowed.

Toxicological tests:

The ingredients have been extensively studied for decades and for various applications in the fields of pharmacy, food technology and cosmetics expressly authorized. By the U.S. FDA, they are Generally Recognized As Safe (GRAS).

None of the ingredients is classified as toxic or very toxic or harmful or sensitizing. Also, no hazardous substances are contained in quantities < 1%; or CMR- and REACH-SVHC substances, not even in traces.

They are also in no other respect products of classification and labeling requirements.

Experience in practice:

Due to forty years of experience and constant observation of the medical (international) specialist literature as well as statement of the SAFEX® advisory toxicologist professor Dr. Holm Bleyer the vaporized mixture can be regarded, and thus the produced fog, as practically nontoxic.

A persistent irritation to the eyes or on the skin or an allergization of the skin, which came in contact with that non-vaporized and vaporized preparation, has not been observed over a period of 40 years.

The usually applied concentrations are harmless also with repetitive, longer lasting application due to the very low toxicity, the particularly high purity and the small effect of the ingredients for healthy young people and adults.

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Information on Ingredients':

All active ingredients of the SAFEX® NEBELFLUIDE are high-purity, considered to be practically non-toxic substances, examined toxicologically for decades and are classified as far-reaching safe.

Exclusively low-toxic representatives of the Group of the Polyoxyalkane are used, which are listed in the German food, Commodities and Feedstuff Code (LFBG) as well as in the cosmetics regulations and described in respect of purity for certain applications and are conform to the stipulated purity requirements and also **not** classified as dangerous substances as defined in Directive 1999/45/EC.

With these purity requirements the ingredients also correspond, insofar as they are listed, to the requirements of European and U.S. pharmacopoeias (DAB, EuPharm, USP).

All components have an LD 50 value Rat, oral > 30 000 mg.

12. Ecological information:

Ecotoxicity WK 1

According to the criteria of the European classification and labelling system, the substance/the product has not to be labeled as "dangerous for the environment".

On the basis of existing data about the elimination/degradation and bioaccumulation potential longer term damage to the environment is unlikely.

Toxicity to fish: Not determined

Aquatic invertebrates: Not determined

Water plants: Not determined

Mobility
Not determined

Persistence and degradability
Rapid degradation

Bioaccumulative potential
Not expected

Results of PBT and vPvB assessment
Not applicable

Other adverse effects
Not to expect

13. Information to disposal

Substance / Preparation
Dispose equal to household-type waste

Recommendation: Dispose only empty containers

Waste code according to the Waste Catalogue Ordinance (AVV)

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Packing: Polyethylen-canister, PET-bottle
Contaminated packaging
Dispose empty container equally to household-type waste

14. Transport information

Land transport ADR/RID

Classification : No hazardous good according to European or international regulations
Class : not applicable **Risk No.:** not applicable
UN-Number: not applicable **Classification Code:** not applicable

Description of good: Fog fluid - no hazardous good in terms of a regulation!

Hazardous components non

Packing: Polyethylen-canister, PET-bottle
Packing Group: not applicable
Hazard label: not applicable
Limited Quantity: not applicable

See transport IMDG/GGVSee

Classification : No hazardous good according to European or international regulations
IMDG-Code : not applicable **EmS:** not applicable
UN-Number: not applicable **Marine Pollutant:** not applicable

Description of good: Fog fluid - no hazardous good in terms of a regulation!

Hazardous components
Non

Packing: Polyethylen-canister, PET-bottle
Packing Group: Not applicable
Hazard label: Not applicable

Air transport ICAO-TI / IATA-DGR

Classification : No hazardous good according to European or international regulations
Class: Not applicable
UN-Number: Not applicable

Description of good: Fog fluid - no hazardous good in terms of a regulation!

Hazardous components Non

Packing: Polyethylen-canister, PET-bottle
Packing Group: Not applicable
Hazard label: Not applicable

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15. Regulatory information

Chemical Safety Assessment:

Not classified as dangerous according to Directive 1999/45/EC as amended.

No subject to a declaration obligation in the sense of the guideline 1999/45/EG.

No classification and declaration obligated product.

Labelling according to EC directive

Code letter/s and hazard description/s of the product

Not applicable

Hazardous determining components for labeling

Contains: Not applicable

R- sentences Not applicable

S- sentences Not applicable

EU-Legislation

Not classified as dangerous in the sense of Directive 1999/45/EC in the current valid version.

National regulations

Water hazard class

Class : WK 1

Technical Instructions on Air Quality (TA-Luft)

Mass flow: 0,50 kg/h or Mass concentration: 50 mg/m³

Störfallverordnung (12. BImSchV)

Not subject to StörfallVO

Solvent regulation (31. BImSchV)

Not applicable

Employment restrictions

Not applicable

16. Other information

Applicable EC Directives

Manufacturer's recommended use restrictions

The concentration of the generated fog must be controlled so that no safety devices become invisible and not a risk for workers is given.

R-phrases referred to in sections 2 and 3

Not applicable

Other notes:

The instruction for the envisaged fogging equipment must be observed, especially the safety instructions and the safety- and privacy distances to objects to be nebulized and to persons.

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A direct nebulization onto sensitive objects and into the face of persons has to be avoided! The fog ejected from fog machines is still hot in a short range and could cause painful scalding and serious eye injuries.

A further detailed, **binding manufacturer's declaration of no objection** as well as a manufacturer - **Risk Assessment** in accordance with § 6 chapter 7 GefStoffV are available on request.

This safety data sheet has been made at the request of user's, although according to both new and old national and European and international regulations, the creation of a MSDS for an entirely non-hazardous preparation which contains no hazardous substances, not even in amounts < 1%, is not necessarily required.

Changes since the last version

Editorial and spelling corrections because of amended clause numbers of referenced regulations and some additional notes, but however, no changes of fundamental kind.

Department issuing MSDS

Company Management: GÜNTHER SCHAIDT-SAFEX® CHEMIE GMBH