

BINDING MANUFACTURER'S DECLARATION

(Product information according to legal requirements)

for

SAFEX-INSIDE-FOG-FLUIDS

(all types)

The artificial (theater-) fog, produced with SAFEX-INSIDE-FOG-FLUIDS, when used as directed in the appropriate and faultless devices*, presents

no health risk

for persons* coming into contact with the produced fog.

SAFEX-INSIDE-FOG-FLUIDS consist of non-poisonous, highly pure components, which are extremely diluted after being vaporized for fog production, such that the produced fog is non-irritant and completely non-toxic*.

Therefore, under normal use, an intoxication or a comparable health defect is absolutely impossible.

Also allergic reactions are not to be expected, because the ingredients have basically no allergic potential.

This assessment is confirmed by numerous - international - inspections, performed through independent institutions, regular inspections with regard to quality and safety and more than twenty years of experience. (* see page 4)

Note: This applies only for SAFEX-preparations in original receptacles. SAFEX-FOG-FLUIDS are recognizable by the typical manifestation of the different types, packing and logos.

Due to the harmlessness of the SAFEX-INSIDE-FOG-FLUIDS, the signatory was in 1985, for the development of this non-toxic fog fluid together with his American licensee, awarded the



TECHNICAL OSCAR

(Scientific and Technical Academy Award)

by the Society of Motion Pictures,
Arts and Sciences in
HOLLYWOOD.

Certifying as being accurate

SCHENEFELD, in January 1998

A handwritten signature in blue ink that reads 'G. Schaidt'.

GÜNTHER SCHAIDT - SAFEX CHEMIE



checked by:
Unternehmensgruppe:
TUV Berlin-Brandenburg
TU Hessen GmbH
TUV Südwest

Toxicological approved
Prof. Dr. med.
H. Bleyer
Toxicologist Greifswald



Dipl. Chem. M. Becker



More than 20 years ago, SAFEX has invented the nowadays worldwide known theater fog, based on non-toxic, vaporizable, water-soluble components, the so-called SAFEX-THEATER-FOG-SYSTEM.

Until today, it is the indisputable best and safest theater fog system at all (apart from dry ice / liquid nitrogen ground fog). A comparable or more superior principle has not been presented yet.

The purpose was to find a harmless alternative to the pyrotechnically, oily or acidic fog materials, which were available at that time only.

The result was the development of a water-soluble fog fluid, consisting of non-toxic components, the so-called SAFEX-FOG-FLUID, which is to be vaporized in SAFEX-FOG-MACHINES.

Through the use of highly pure, toxicologically thoroughly examined components and a careful matching of preparation and machine, it is guaranteed that no health risks occur.

The influence of the vaporization temperature, hot spotlights and other heat sources are of course taken into account, so that no danger exists under normal practical use.

INFORMATION ABOUT THE UNPROCESSED PRODUCT

TÜV-REPORT - ABSTRACT:

SAFEX-INSIDE-FOG-FLUIDS consist of raw materials with a **high degree of purity**, which are **no hazardous materials** according to legislation on hazardous materials (German GefStoffV) or the legislation on chemicals, respectively. (German ChemG)

Thus, SAFEX-INSIDE-FOG-FLUID (all types) is also not a **hazardous composition**.

The pure ingredients are also used in the food and allied industries and in consumables according to LMBG*. They are harmless according to the actual state of knowledge. MAK-values* are not established.

Due to their high degree of purity they fulfill the quality requirements of the LMBG, the German Book of Pharmaceuticals, and the European Book of Pharmaceuticals, respectively.

März 1995



Checked by:
Unternehmensgruppe:
TUV Berlin-Brandenburg
TU Hessen GmbH
TUV Südwest

SAFETY CLASSIFICATION:

SAFEX-INSIDE-FOG-FLUIDS are **neither explosive nor fire supporting, not hardly inflammable, not highly inflammable or inflammable, not very poisonous, not poisonous or less poisonous, not corrosive, not irritating or sensitizing and not hazardous to the environment** according to any **European or international valid legislation**.

TRANSPORTING AND STORING:

SAFEX-INSIDE-FOG-FLUIDS are **no hazardous materials** according to any national or international legislation on transporting of hazardous materials and are therefore not subject to any restrictions when being transported or stored (no IATA-DGR-, IMDG-, ADR-, GGVS-, GVE-, etc. -good).

LABELLING / SAFETY DATA SHEET / "TRANSPORTBEGLEITBLATT"

SAFEX-INSIDE-FOG-FLUIDS are **not liable to any labelling duty**. **No safety data sheets are prescribed** and no legislation exists for transportation, storage and use.

QUALITY DESCRIPTION:

SAFEX-INSIDE-FOG-FLUIDS are **purely composed** of components which are listed in the **German Food and Consumables Legislation** (*Lebensmittel- und Bedarfsgegenständegesetz, LMBG*). They meet the purity requirements laid down in the LMBG and, as far as applicable, the **German or European Book of Pharmaceuticals and USP**

No *MAK- and TRK-values are defined for the SAFEX-INSIDE-FOG-FLUIDS and their ingredients. They are therefore in accordance to the **DIN/VDE-regulation 0700** - part 245 - "fog machines" (Paragraph 32 - Radiation, toxicity and similar hazards). (*MAK-values = German Threshold Limit Values)

MEDICAL/TOXICOLOGICAL INFORMATION:

There were no obvious lesions after performing an inhalation toxicity study, with laboratory animals even after 8 hours in saturated atmosphere (tested with single fog fluid components and combinations of it)

The oral lethal dosis LD50 for all fog fluid ingredients is >20 000 mg/kg laboratory animal (rat)

An allergic reaction is to be expected only in very rare cases (Idiosyncrasies) because of the low reactivity of the ingredients to human proteins (building of haptenes). There is no known allergic potential for all components beside one, if it is used in pharmaceutical preparations for occlusive bandages.

INSTRUCTIONS FOR USE:

Despite the harmlessness, the following instructions should be taken into consideration when using SAFEX-INSIDE-FOG-FLUIDS.

The products are to be used only in appropriate devices and for the designated purpose.

They are not designated for general use (e.g. household) and should therefore, like any chemical preparation, be stored inaccessible for children and be used by adults only, following the instructions for use.

SAFEX-INSIDE-FOG-FLUIDS should only be stored in original receptacles, closed and protected against dirtying, at a cool place.

Filled storage tanks of fog machines should be labeled properly. It should be refrained from filling fog fluids into other receptacles.

INFORMATION ABOUT THE FOGGED PRODUCT:

When used as directed in the appropriate and faultless devices, the fog, produced from the SAFEX-INSIDE-FOG-FLUIDS, presents no health risk. The fog is absolutely not poisonous*.

The resulting concentrations are, even after repeated and prolonged applications, completely harmless for young persons and adults due to the extremely low toxicity and the extraordinary high purity of the ingredients.

No danger is involved when the fog comes into contact with equipment which is usually used on stages (hot spotlights, decoration material, etc.). A thermal or any different decomposition is excluded under usual

circumstances in practice.

During the last 25 years, the SAFEX-FOG-PROCESS was investigated by different institutions with respect to its effect on human beings.

Even critical tests finally came to the result that proper use can not be complained about. No restrictions or bans were known worldwide.

The most important examinations during the last 10 years are:

1985 AUSTRIA ¹⁾

Federal Minister for Construction and Technics
Laboratory test (Admission for the Austrian Federal Theatres)

1991/93 USA ⁴⁾

National Institute for Occupational Safety and Health, NIOSH, Cincinnati, Ohio, Laboratory and field test, medical test with musical actors

1989/90 GERMANY ²⁾

Institute of the trade association for maintenance of industrial health and safety standards, St. Augustin, Laboratory and field test (TV-studio)

1994/95 GERMANY ⁵⁾

Prof. Dr. Holm Bleyer, Toxicologist, Greifswald (SAFEX-study), Laboratory and field tests with 30 fog generators and medical/toxicological assessment of the fog system

1991 FRANCE ³⁾

Laboratoire National d'Essais (Federal Laboratory), Paris, Laboratory test with respect to conformity with French regulations

1995/1997 GERMANY ⁶⁾

TÜV-Umwelt GmbH, Unternehmensgruppe TÜV Brandenburg, TÜ Hessen, TÜV Südwest, Laboratory test and quality test according to the food and consumables legislation

RESULTS:

¹⁾ SAFEX-FOG-GENERATORS used with SAFEX-INSIDE-FOG-FLUIDS are **admitted** by the **Federal Minister for Construction and Technics** to be used on the stages of the federal theatres.

²⁾ After a scientific investigation, performed by the **institute for occupational health and medicine of the trade association for maintenance of industrial health and safety standards** (Berufsgenossenschaftliches Institut für Arbeitssicherheit und Arbeitsmedizin, BIA) in 1989, the administrative trade association has **no doubts against the appropriate use (also indoor)** of the tested SAFEX-INSIDE-FOG-FLUIDS.

The goal of this investigation, made by the trade association, working group "studios and theatre", Mainz, Germany, in cooperation with the **safety engineers of the German television ARD and ZDF**, was to prove whether harmful substances can be produced when fog fluids are used under practical circumstances in studios.

³⁾ The products are in **compliance with French regulations**. They are not to be classified as being harmful and require no warning labelling.

⁴⁾ A field test was performed with measurements during 8 Broadway musicals, questioning of app. 200 actors and medical tests on 65 persons. Additionally, laboratory tests with fog fluids have been performed.

In none of the theatres harmful substances or decomposition products have been detected. There was no indication for occupational asthma through theatre fog among the actors. Fog generators should be placed such that the exiting fog is not directed at persons. The fog ingredients should provide high purity (food quality).

⁵⁾ In 1997, the **toxicologist Prof. Dr. Holm Bleyer**, specialist for pharmacology and toxicology, was asked by SAFEX to investigate again the possibility of generation of harmful substances or the appearance of detrimental effects when SAFEX-FOG-FLUIDS are used for fog production. Approximately 30 SAFEX fog generators, also older and used

devices, were investigated under worst case conditions. Devices for the analysis were provided by **ergo Institut**, Hamburg, and **Drägerwerke**, Lübeck.

Chemical / analytical result:

Harmful substances (products of pyrolysis) were in no case detected within the measurement accuracy required for workplaces.

Medical / toxicological evaluation:

Based on

- extensive literature investigations about the biological effects of the ingredients of the SAFEX-FOG-FLUIDS,
- the knowledge of the results of scientific/analytical tests after use of the fog fluids under real conditions,
- investigations, performed by the manufacturer, with different preparations of the SAFEX-INSIDE-FOG-FLUIDS and
- tests of SAFEX fog generators with the above fog fluids,

I conclude that the ingredients of all SAFEX-FOG-FLUIDS and thus also the SAFEX-INSIDE-FOG-FLUIDS, in unprocessed form and when used as directed with SAFEX fog generators as fog, **have no detrimental effect on healthy persons.**

From a toxicological point of view there exists no doubt concerning the proper use of this fog system.

Prof. Dr. med. H. Bleyer, toxicologist, Greifswald

⁶⁾ The investigation confirms the purity of the ingredients and their physiological harmlessness. All ingredients and thus the fluids themselves are no harmful substances in the sense of the legislation of chemicals.

Note:

**) All statements are valid for healthy young persons and adults.*

Sick persons or persons suffering from asthma and children should for general reasons avoid coming into contact with any kind of smoke, dust or fog.

Those persons can, due to their increased sensibility, react with a strong feeling of anxiety to an unprepared confrontation with theatre-fog.

Asthmatics, being already sensible to humid or cold air, should not be exposed to artificial fogs of any kind, or if necessary, only in very low concentrations and after prior information about the planned application.

Sensible persons may be irritated by any non-atmospheric substances in any concentration, even when such substances are chemically and toxicologically completely harmless.

Non-poisonous (toxicologically harmless) substances may not be imposed to persons against their will and may not be sprayed onto unpacked foodstuffs.

If persons feel irritated after they came into contact with fog produced with SAFEX-INSIDE-FOG-FLUID, it is recommended that they should not be further exposed to the fog until the causal relationship can be fully excluded. This is to avoid that a possible individual sensibility is intensified.

Primarily, all new or in regular intervals serviced SAFEX-FOG GENERATORS are suited for the SAFEX-INSIDE-FOG-FLUIDS. (Information about the use of SAFEX INSIDE FOG FLUIDS in devices from other manufacturers can be provided on request)

FURTHER SAFETY INFORMATION

LIMITS:

A MAK-value (maximum permitted exposure level of pollution at the place of work) exists neither for the product nor for its ingredients. The fog concentration, however, should never be such that safety installations like emergency exits, escape routes and signs thereof and staircases etc. become **unrecognizable**.

Usual concentrations for theatre and show applications are between 25 and max. 250 mg/m³ (visibility ≤ 3 mtr.). Short-term higher concentrations in the vicinity of the fog generator are harmless.

Recommended safety distance:

Direct fog jet: 2.5 mtr. to persons (direct distance)
Fog generator in stand by mode: 1.0 mtr. to fog outlet

POLLUTANTS:

Only clean, non-polluted SAFEX-FOG-FLUID from original canisters may be used.

Every mixing with other substances (perfumes, oils or other chemicals) or fog fluids from other manufacturers should be avoided.

When brought together with acids, leaches or strong oxidation substances, uncontrolled and heavy reactions may occur. Therefore, SAFEX-FOG-FLUIDS should not be stored together with aggressive chemicals.

HOT FLOODLIGHTS / HEATING DEVICES:

The usual contact of the fog with floodlights and heating devices, which are in use, is harmless. Similarly, candles, torches, open fireplaces etc., as usually used in theatres, present no risk or danger.

Fogging onto larger glowing surfaces or into large open flames (fireplaces) etc. is **no use as directed** and must be avoided.

TEXTILES / VALUABLES:

Artificial fog is condensed humidity and causes an increased atmospheric humidity.

Fogging directly onto valuable textiles, wallpapers, paintings and furnitures etc. may cause damage due to moisture (safety distance > 2.5 mtr.).

Usual fog quantities however, distributed in the air, present no danger for sensitive objects.

PRECIPITATION / DANGER OF SKIDDING:

Cold and low heat conducting surfaces, like marble, steel, glass, may get steamed up at higher fog concentrations.

Smooth, non-absorbent surfaces (synthetic floor covering, acrylic glass surfaces etc.) may become wet and slippery, in particular when in direct contact with the fog jet. The same applies to spilled fog fluid.

COMPATIBILITY WITH MATERIALS:

With the exception of water sensitive construction materials (non-protected steel etc.) no materials are known, which may be attacked by SAFEX fog distributed in the air.

This is also valid for electronic parts, as long as printed circuits are not soaked by direct fogging.

Only for thermo-paper it is known that, due to its chemical coating, it may be discoloured when exposed to high fog concentrations.

MISUSE:

(Use other than directed)

Rinsing with tap water is sufficient, should the fluid be inadvertently put into one's mouth, the eyes or onto the skin or mucous membranes.

Medical observation or treatment is required if, due to improper use, larger quantities of the fog fluid get into the stomach, in particular of children. Therefore, the fluids should be stored inaccessible for children. (Filling the fog fluids into receptacles which are usually used for foodstuffs, is not allowed.)

WASTE DISPOSAL:

Polluted objects can be put to the usual garbage for waste disposal. Small fog fluid quantities, diluted with water, are harmless for water sewage plants. Larger quantities can be returned to the manufacturer.

This information sheet provides all required information for the user and for employers in connection with their duties according to the legislation on harmful materials (GefStoffV). This replaces a safety data sheet, as is required for harmful materials. This information sheet has been prepared with great care and is based on the latest state of knowledge. In justified exceptional cases, further information can be provided to institutions which are bound to secrecy, due to their official duties, against assurance of confidentiality and non-publication.