

Product name: Eurolite Smoke fluid "B", "C", "P", "E", "X"

## 1. Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

Trade name: EUROLITE Smoke fluid -B- basic  
 EUROLITE Smoke fluid -C- standard  
 EUROLITE Smoke fluid -P- professional  
 EUROLITE Smoke fluid -E- extreme  
 EUROLITE Smoke fluid -X- extreme A2

REACH Registration No.: not applicable

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses: Fog and smoke simulation

### 1.3. Details of the supplier of the safety data sheet

Manufacturer/Supplier: Steinigke Showtechnik GmbH  
 Andreas-Bauer-Straße 5  
 D-97297 Waldbüttelbrunn  
 Phone: +49 931 4061-0  
 Fax: +49 931 4061-700  
 Homepage: www.steinigke.com  
 E-Mail: info@steinigke.com  
 Contact: Mr. Schuster  
 Phone: +49 931 4061-434  
 Fax: +49 931 4061-9110  
 E-Mail: sds@steinigke.de

### 1.4. Emergency telephone number

Opening hours: +49 931 4061-434 (Mo. – Fr., 8.00 – 16.00 Uhr)  
 Contact: Mr. Schuster  
 Phone: +49 931 4061-434  
 E-Mail: sds@steinigke.de

Emergency informatio Giftnotruf Mainz - 24 h Notdienst  
 Phone: +49 6131-19240

## 2. Hazards identification

### 2.1. Classification of the mixture

Acute toxicity , oral Category 4 H302  
 Specific target organ toxicity - Category 2 Kidney H373  
 repeated exposue

### 2.2. Label elements

Hazard pictograms



Signal word

**Warning**

Hazard statements

H302 Harmful if swallowed.  
 H373 May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

P102 Keep out of reach of children.  
 P260 Do not breathe dust/fume/gas/mist/vapours/spray.  
 P264 Wash skin thoroughly after handling.  
 P270 Do no eat, drink or smoke when using this product.  
 P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.  
 P314 Get medical advice/attention if you feel unwell.

### 2.3. Other Hazards

None

## 3. Composition/information on ingredients

### 3.2. Mixture

Ingredients	Hazard class and category	Concentration
Diethylene glycol		
CAS Nr.: 111-46-6	Acute Tox.4; H302	< 25 %
EG Nr.: 203-872-2	STOT RE 2; H373	

Hazard statements H302 Harmful if swallowed.  
 H373 May cause damage to organs through prolonged or repeated exposure.

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#### 4. First aid measures )<sup>1</sup>

##### 4.1. Description of first aid measures

- General notes: Get medical attention. Have product container, label or material safety data sheet at hand.
- Following inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- Following skin contact: Rinse immediately contaminated clothing and skin with plenty of water before removing clothes.
- Following eye contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- Following ingestion: Immediately call a POISON CENTER or doctor/physician. Rinse the mouth and spit the fluids out. If the casualty is conscious have him drink copious amounts of liquids (water). Apply charcoal (3 tablespoons as a suspension in a glass of water). If the intake has been very recent: Make the casualty vomit. During vomiting hold the head of the casualty low with the body in a prone position in order to prevent aspiration.

##### 4.2. Most important symptoms and effects, both acute and delayed

Diethylene glycol (DEG) is barely irritating and its systemic toxicity is rather low. However, swallowing of larger doses has frequently led to poisoning with kidney failure.

Because initial symptoms are often minor, the severity of poisoning can be underestimated.

Symptoms of acute poisoning:

- Eyes: no or only slight irritative effects.
- Skin: no significant irritation; systemic effects must be expected when extensive contact with damaged skin has taken place.
- Inhalation: from high concentrations of vapor/aerosol aggravating effects/unspecific irritative effects in the upper respiratory tract; in extreme cases difficulties in breathing and absorptive effects.
- Ingestion: almost no irritative effects, dose-dependent absorptive effects.
- Absorption: following relatively low doses initially headache, dizziness, nausea, vomiting, diarrhea, after a delay (24 - 72 h) disturbances in kidney function/kidney failure (polyuria, oliguria -> anuria) with cardiac insufficiency, possibly congested liver; indicators: acidosis (with anion gap), leukocytosis, hyperkalemia, hyperglycemia, raised levels of creatinine and urea in the blood; following very high doses (150 ml) immediate coma, severe acidosis, kidney failure.

##### 4.3. Indication of any immediate medical attention and special treatment needed

- Eyes: If splashes reach the eyes, first aid measures (thorough rinsing) should be followed by a consultation with an ophthalmologist.
- Skin: Following contact with intact skin, cleanse carefully. No further therapeutic measures should be required. If larger areas were contaminated however - especially damaged skin - transport to hospital to examine for possible poisoning.
- Inhalation: Following inhalation of concentrated aerosol/hot vapor, supply plenty of fresh air and monitor lung function and cardiovascular parameters. Provide symptomatic therapy as needed. Observation in hospital is indicated even if there is a lack of symptoms.
- Ingestion: When large doses are swallowed (> 0.1 mg/kg bw), primary elimination of the noxa with gastric lavage (always in intubation) is recommended when this can be done within the first hour after intake. Shortly following intake of very high doses, measures for cardiopulmonary and cerebral reanimation may become necessary. Transport to clinic in every case. Of highest priority in the clinic are monitoring cardio-vascular, lung and CNS function as well as checking acid-base balance and kidney and liver parameters. The most important therapeutic measures are correction of metabolic acidosis and maintaining kidney function; in severe cases hemodialysis as soon as possible! Treatment for cardiac insufficiency and liver dysfunction as necessary.
- Recommendations: Provide the physician information about the substance/product and treatment already administered. In newer animal experiments, administration of an alcohol dehydrogenase inhibitor (Fomepizole) repressed the formation of the DEG metabolites 2-hydroxyethoxy acetic acid and diglycol acid, to which the nephrotoxic and hepatotoxic effects of the substance are attributed.

#### 5. Firefighting measures

##### 5.1. Extinguishing media

- Suitable extinguishing media
- Water (spray jet - do not use full jet)
  - Dry extinguishing agents
  - Carbon dioxide
- Fight larger fires with alcohol-resistant foam or water spray.

##### 5.2. Special hazards arising from the substance or mixture

Carbon monoxide and carbon dioxide

##### 5.3. Advice for firefighters

- Classes of fires: B liquid or melting substances
- Wear self-contained breathing apparatus for fire fighting if necessary.

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## 6. Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

The instructions given in the section apply to the non-vaporized liquid.

Risk of slipping due to leakage, spillage or condensed product.  
Keep unprotected persons at a safe distance.  
Ensure adequate ventilation.

The following instructions apply to the vaporized liquid

Ensure adequate ventilation

### 6.2. Environmental precautions

The instructions given in the section apply to the non-vaporized liquid.

The mixture is weakly water-endangering.  
Avoid further spillage or leakage prevented if this is possible without risk.  
In case greater quantities intrude into waterways, sewage system or soil, inform appropriate authorities.

### 6.3. Methods and material for containment and cleaning up

The instructions given in the section apply to the non-vaporized liquid.

Absorb any spilt liquid with an absorbent (e.g. diatomite, vermiculite, sand) and dispose of according to regulations.  
Afterwards ventilate area and wash spill site.

The instructions given in the section apply to the vaporized liquid.

During the heating of the liquid in the fog machine, steam and aerosol form, which condense on cold surfaces and form oily films which increase the risk of skidding.  
These residues can be easily removed with a warm soapy solution. Wearing appropriate gloves is recommended.

### 6.4. Reference to other sections

For disposal see section 13

## 7. Handling and storage

### 7.1. Precautions for safe handling

The following instructions apply to the non-vaporized liquid

Store in unbreakable containers.  
Avoid contact with eyes and skin  
Do not breathe vapours and aerosol.  
Do not eat, drink or smoke when using this product.

The following instructions apply to the vaporized liquid

Considering the visibility and the desired effect, the concentration of smoke fluid in the air should be calculated between 25 and max. 80 mg/m<sup>3</sup>.  
A visibility of 25 meters (in accordance with the German VStättV; please refer for the definition of the "max. distance to the nearest exit" in national applicable regulations if used outside of Germany) must be complied with.  
Exposure scenario see section 16

### 7.2. Conditions for safe storage, including any incompatibilities

The following instructions apply to the non-vaporized liquid

Storage class 12  
Store in a well-ventilated place. Keep container tightly closed.  
Protect from sunlight.  
Store at temperatures not exceeding 40 °C/104 °F. Keep cool.  
Containers which are opened must be carefully resealed and kept upright to prevent leakage.  
  
Do not store together with oxidizing agents.  
Do not store together with strong alkalis.

### 7.3. Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.  
Exposure scenario see section 16

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## 8. Exposure controls/personal protection

## 8.1. Control parameters

CAS-Nr.	111-46-6	Ingredient Diethylene glycol				Remarks	Legal basis
		Limit values					
		8 hours		Short term			
Country	ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>			
Denmark	2,5	11				At-VEJLEDNING August 2007 – Erstatte april 2005 STOFFER OG MATERIALER – C.0.1	
Germany	10	44	40	176	4(II), Y, 11	Technischen Regeln für Gefahrstoffe TRGS-900 Stand 04.11.2016	
Estonia	10	45	20	90	A	Töökeskkonna keemiliste ohutegurite piirnormid Vastu võetud 18.09.2001 nr 293	
Ireland	23	100				Code of Practice for the Chemical Agents Regulations 2016	
Latvia	10	45	20	90	O	Lietuvos higienos normas HN 23:2011	
The Netherlands		70			H	OEL CAS numbers <a href="http://www.ser.nl/en/oel_database">http://www.ser.nl/en/oel_database</a>	
Austria	10	44	40	176	15(Miw) 4x	Verordnung des Bundesministers für Arbeit, Soziales und Konsumentenschutz über Grenzwerte für Arbeitsstoffe sowie über krebserzeugende und über fortpflanzungsgefährdende (reproduktionsstoxische) Arbeitsstoffe (Grenzwerteverordnung 2011 – GKV 2011)	
Poland		10				OCCUPATIONAL EXPOSURE LIMITS FOR AIRBORNE TOXIC SUBSTANCES Basic Legal Act in Poland: THE ORDINANCE OF THE MINISTER OF LABOUR AND SOCIAL POLICY ON THE MAXIMUM ADMISSIBLE CONCENTRATIONS AND INTENSITIES OF HARMFUL TO HEALTH AGENTS IN THE WORKING ENVIRONMENT. DZIENNIK USTAW 2002, NO 217, ITEM 1833, CHANGES DZIENNIK USTAW 2005, NO. 212, ITEM 1769 (in red), DZIENNIK USTAW 2007, NO. 161, ITEM 1142 (in green), DZIENNIK USTAW 2009, NO 105, ITEM 873 (in blue), DZIENNIK USTAW 2010, NO 141, ITEM 950 (in pink).	
Sweden	10	45	20	90	H, V	Hygieniska gränsvärden AFS 2015:7	
Switzerland	10	44	40	176	SS <sub>c</sub>	SUVA: Grenzwerte am Arbeitsplatz 2017	
United Kingdom	23	101				EH40/2005 Workplace exposure limits 2013-03	

Remarks		
Germany	4(II)	Category II Resorptively active substances: The baseline value (15-minute mean value) is defined as an excess factor (EF) of 2. <b>For DEG: EF of 4.</b> Operational monitoring is to be carried out by means of measurement-technical mean value formation over 15 minutes. In the case of substances of the short-term value category II, longer periods of overrun (PD) are also permissible, as long as the product of the overrun factor and the excess time is observed
	Y	The substance occurs at room temperature in relevant amounts both as a vapor and as an aerosol. Therefore, the sum of steam and aerosol must always be assessed.
	11	There is no reason to fear a risk of damage to the developing embryo or foetus when MAK and BAT values are observed.
Estonia	A	Indicates absorption through the skin
Lithuania	O	Indicates absorption through the skin
The Netherlands	H	Indicates absorption through the skin
Austria		Duration (min): 15(Miw) [Miw: verage value over evaluation period] Frequency per shift: 4x
Sweden	H	Indicates absorption through the skin
	V	Recommendation, although the short-term maximum value may not be exceeded
Switzerland	SS <sub>c</sub>	There is no reason to fear of damage to the developing embryo or foetus when MAK and BAT values are observed.

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## 8.2. Exposure controls

Handle in accordance with good industrial hygiene and safety practice.  
Wash skin thoroughly after handling with plenty of soap and water.

Eye/face protection:	Recommended during refilling. Use by official standards (NIOSH, EN 166) tested and approved equipment.
Hand protection:	Wear gloves when refilling. Suitable gloves are: Natural rubber/Natural latex - NR (0,5 mm) (use non-powdered and allergen free products) Polychloroprene - CR (0,5 mm) Nitrile rubber/Nitrile latex - NBR (0,35 mm) Butyl rubber - Butyl (0,5 mm) Fluoro carbon rubber - FKM (0,4 mm) Polyvinyl chloride - PVC (0,5 mm)
Body Protection:	The protection clothing should be solvent resistant.
Respiratory protection:	If, according to a hazard assessment, the limit values can not be excluded by aerosol and fogging, a respiratory protection device must be provided: gas filter A, color code brown
Additional Components of	not mandatory not mandatory

## 9. Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

	Smoke fluid	Diethylene glycol ) <sup>1</sup>
a) Appearance:	Form: liquid Colour: colourless	Form: liquid Colour: colourless
b) Odour:	neutral	odourless
c) Odour threshold:	Data not available	
d) pH	6 ... 8	6 ... 8 at 20 °C Concentration: 200 g/l
e) Melting point/	-8 °C to -43 °C	-6 °C
f) Initial boiling point	from 100 °C	244 °C
g) Flash point:	> 140 °C	138 °C open cup
h) Evaporation rate:	Data not available	< 0,01 (Butyl acetate = 1)
i) Flammability:	Data not available	335 °C Temperature class: T2 Explosion group: IIB
j) Upper/lower flammability or explosive	Data not available	l.e.l.: 1,7 Vol.-% 75 g/m <sup>3</sup> u.e.l.: 37,0 Vol.-% 1635 g/m <sup>3</sup>
k) Vapour pressure:	Data not available	0,008 hPa at 25 °C
l) Vapour density:	Data not available	3,66 (Air = 1,0)
m) Relative density:		1,00 at 20 °C and 1013 hPa
n) Solubility(ies):	miscible in water	entirely mixable
o) Partition	Data not available	log K <sub>ow</sub> : - 2,0
p) Auto-ignition temperature:	Data not available	372 °C at 1013 hPa
q) Decomposition temperature:	Data not available	372 °C at 1013 hPa
r) Viscosity:	low viscosity	V <sub>dyn</sub> : 30 mPa*s at 20 °C Conversion: V <sub>kin</sub> = V <sub>dyn</sub> / Density
s) Explosive properties:	The product is not explosive, but formation of explosive air / vapor mixtures is possible	Data not available
t) Oxidising properties:	Data not available	Data not available

### 9.2. Other information

Conductivity:	< 5 µS/cm	< 0,5 µS/cm
Density	1,02 g/ml	1,12 g/ml at 20 °C

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## 10. Stability and Reactivity

### 10.1. Reactivity

see section 10.3.

### 10.2. Chemical stability

Stable under recommended storage conditions.

### 10.3. Possibility of hazardous reactions

Reacts with strong alkalis.  
Reacts with oxidants.

### 10.4. Conditions to avoid

Protect from sunlight. Do not expose to temperatures exceeding 40 °C/104 °F.

### 10.5. Incompatible materials

see section 10.3.

### 10.6. Hazardous decomposition products

Does not decompose during the intended use.  
In the event of fire: see section 5.

## 11. Toxicological information

### 11.1. Information on toxicological effects

(a) acute toxicity	Smoke fluid The product was not tested on animals.	Diethylene glycol ) <sup>1</sup> LD50 oral - rat – 12.565 mg/kg LD50 oral - human – 1.000 mg/kg DEG has a very low potential to irritate locally. There are no indications of allergic reaction in humans. In animal experiments, the dermal toxicity was proven to be low. Concerning exposure by inhalation, data from animal experiments show low toxicity. The consequences of oral intake of DEG are known from numerous poisoning cases. In most cases, contaminated medications were taken. These led, in part, to mass poisonings. Individual case reports describe the consequences of swallowing high doses of pure DEG. Ingestion of 150 - 350 ml undiluted DEG was acutely life-threatening or lethal as it triggered immediate severe CNS disturbances (deep coma) and metabolic disturbances (metabolic acidosis). Delayed progress of poisoning was observed following ingestion of medications containing DEG which took place either once or several times for brief intervals. Poisoning was often fatal although disturbances in consciousness appeared prior to death. Death often occurred 4 - 12 days afterward. not irritating In several experiments on rabbits' eyes, the undiluted substance caused no or only slight irritative effects. It was therefore not necessary to categorize it as irritating to the eyes. Maximation test - guinea pig Result: provides no sensitization In-vitro and in-vivo studies with DEG had negative or ambiguous results. Valid animal experiments produced no indications that DEG has any carcinogenic effects. However, heavy contamination with DEG can lead to irritation due to bladder stones and trigger the development of bladder tumors.
(b) skin corrosion/irritation	not irritating	
(c) serious eye damage/irritation	not irritating	
(d) respiratory or skin	not sensitising	
(e) germ cell mutagenicity	Data not available	
(f) carcinogenicity	Data not available	

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(g) reproductive toxicity	There is no reason to fear a risk of damage to the developing embryo or foetus when MAK and BAT values are observed.	There is no reason to fear a risk of damage to the developing embryo or foetus when MAK and BAT values are observed.
(h) STOT-single exposure	May cause damage to organs through prolonged or repeated exposure	May cause damage to organs through prolonged or repeated exposure.
(i) STOT-repeated exposure	oral -kidney	oral - kidney
(j) aspiration hazard	when vomiting	when vomiting

## 12. Ecological information

### 12.1. Toxicity

No known ecotoxic effect.

### 12.2. Persistence and degradability

The product has no negative environmental impact. It is tested in accordance with OECD 301E / EEC 84/449 C3 and is considered readily biodegradable.

With proper releases of low concentrations into adapted biological sewage treatment plants, disturbances of the degradation activity of activated sludge are not to be expected.

### 12.3. Bioaccumulative potential

no potential for bioaccumulation

### 12.4. Mobility in soil

Transport and distribution between environmental compartments has not been determined.

### 12.5. Results of PBT and vPvB assessment

Data not available

### 12.6. Other adverse effects

not known

Water hazard class WGK 1: low hazardous to waters

Do not allow product to reach groundwater, bodies of water or sewage systems.

Do not allow product undiluted or unneutralized into wastewater or drainage systems.

## 13. Disposal considerations

### 13.1. Waste treatment methods

Waste code:

20 01 13

Product:

Recommendation: Can be incinerated together with household waste in consultation with the waste disposal company and the competent authority, taking into account the necessary technical regulations.

Contaminated packaging:

Recommendation: Contaminated packaging is to be optimally emptied and can be reused after appropriate cleaning. Packaging which can not be cleaned must be disposed of as well as the substance.

## 14. Transport Information

### 14.1. UN Number

ADR/COTIF: --                    IMDG: --                    IATA: --

### 14.2. UN proper shipping name

ADR/COTIF: Non dangerous goods

IMDG: Non dangerous goods

IATA: Non dangerous goods

### 14.3. Transport hazard class(es)

ADR/COTIF: --                    IMDG: --                    IATA: --

### 14.4. Packing group

ADR/COTIF: --                    IMDG: --                    IATA: --

### 14.5. Environmental hazards

ADR/COTIF: --                    IMDG: --                    IATA: --

### 14.6. Special precautions for user

ADR/COTIF: no                    IMDG: no                    IATA: no

### 14.7. Transport in bulk according to Annex II of Marpol 73/78 and the IBC Code

No transport as bulk according IBC Code.

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## 15. Regulatory information

### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

National provisions

Employment restrictions	no
Water hazard class	WGK 1, slightly hazardous to waters; (Classification acc. VwVwS , Annex 4)
Volitale organic compounds	According to Directive 2004/42/EC does not contain any VOC components.

### 15.2. Chemical Safety Assessment

For this product a chemical safety assessment was not carried out.

## 16. Other information

)<sup>1</sup> Diethylene glycol

GESTIS substance database: entries derived from material data sheet diethylene glycol.

[http://gestis-en.itrust.de/nxt/gateway.dll/gestis\\_en/011970.xml?f=templates\\$fn=default.htm\\$3.0](http://gestis-en.itrust.de/nxt/gateway.dll/gestis_en/011970.xml?f=templates$fn=default.htm$3.0)

Exposure szenario:

Professional smoke fluid for the production of short-term, artificial fog and show effects in the event industry, theater and film production.

Considering the visibility and the desired effect, the concentration of smoke fluid in the air should be calculated between 25 and max. 80 mg/m<sup>3</sup>.

In particular, the smoke density must be selected to ensure that exits and emergency exits are always visible in enclosed spaces. The same applies to the lighting of escape routes, their markings, landings, manholes, building edges etc.

A visibility of 25 meters (in accordance with the German VStättV; please refer for the definition of the "max. distance to the nearest exit" in national applicable regulations if used outside of Germany) must be complied with.

To avoid anxiety, smoke-sated rooms may never be locked.

The product is to be used properly and as supplied.

Keep away from children and store out of reach.

Futher information:

The present information is currently compiled to the best of our knowledge. It does not claim to be exhaustive. The safety data sheet describes products with regard to requirements for safe handling and should be understood by the user as a guideline. The information provided does not indicate property assurances in the sense of quality descriptions. Steinigke Showtechnic GmbH excludes any liability for damages resulting from handling or contact with these products. For general terms and conditions see the back of our invoice or delivery notes as well as under [www.steinigke.com](http://www.steinigke.com).