

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)  
**BAVARIA WHITE GHOST 3% - FP**

**SECTION 1: Identification of the substance/mixture and of the company/undertaking**

**Product identifiers**

**WHITE GHOST 3%**

**Relevant identified uses of the substance or mixture and uses advised against**

**Use of the substance/mixture**  
fire extinguishing agent

**Details of the supplier of the safety data sheet**

<b>Supplier</b>	BAVARIA EGYPT
<b>Street</b>	Gisr El Suez St. Block 109, Industrial Zone, Ismailia Desert Road, Cairo-Egypt
<b>Postal code/city</b>	2016/11111 Cairo
<b>Country</b>	Egypt
<b>Telephone</b>	+20 2 2182 0601 / 2 / 3
<b>Telefax</b>	+20 2 2182 0609
<b>E-mail (competent person)</b>	salah.zouzou@bavaria.com.eg
<b>Website</b>	www.bavaria-firefighting.com
<b>Dept. responsible for information</b>	Costumer Service
<b>Emergency telephone number</b>	19944
<b>Emergency telephone number</b>	19944

**SECTION 2: Hazards identification**

**Classification of the substance or mixture**

Classification according to Regulation (EC) No. 1272/2008 [CLP]

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [CLP].

**Label elements**

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

**Hazard pictograms**



This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [CLP].

**Hazard statements**

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**Precautionary statements**

P262

Do not get in eyes, on skin, or on clothing.

P280

Wear protective gloves/protective clothing/eye protection/face protection.

P301+P330+P331

IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

P303+P361+P353

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P305+P351+P338

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

**Other hazards**

The product contains non-biodegradable fluorosurfactants.

Can harm the aquatic fauna when entering surface waters.

Can harm the bacteria population in waste water treatment plants when entering the sewerage system.

Breathing is not possible whilst submerged in the foam. Take care when spraying people!



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**SECTION 3: Composition / information on ingredients****Substances**

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**Mixtures****1,2-ETHANDIOL**

CAS No.: 107-21-1

EC No.: 203-473-3

REACH No.: 01-2119456816-28-XXXX

Concentration: &lt; 20%

Classification according to Regulation (EC) No. 1272/2008 [CLP]: GHS07-GHS08; Acute Tox. 4-STOT RE 2; H302-H373.8

**2-(2-BUTOXYETHOXY)ETHANOL**

CAS No.: 112-34-5

EC No.: 203-961-6

REACH No.: 01-2119475104-44-XXXX

Concentration: &lt; 10%

Classification according to Regulation (EC) No. 1272/2008 [CLP]: GHS07; Eye Irrit. 2; H319

**FLUOROSURFACTANT**

Concentration: &lt; 5%

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [CLP].

Full text of R-, H- and EUH-phrases: see section 16.

**SECTION 4: First aid measures****Description of first aid measures****General information**

Remove contaminated, saturated clothing immediately.

Wash thoroughly the body (shower or bath).

Observe risk of aspiration if vomiting occurs.

When in doubt or if symptoms are observed, get medical advice.

**Following inhalation**

Provide fresh air.

Consult a doctor immediately in the case of inhaling spray mist and show him packing or label.

**In case of skin contact**

Wash immediately with: Water

**After eye contact**

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.

**After ingestion**

Do NOT induce vomiting.

If accidentally swallowed rinse the mouth with plenty of water (only if the person is conscious) and obtain immediate medical attention.

**Most important symptoms and effects, both acute and delayed**

Drowsiness

Nausea

Gastrointestinal complaints

**Indication of any immediate medical attention and special treatment needed**

If unconscious place in recovery position and seek medical advice.

IF SWALLOWED: Immediately call a POISON CENTER/doctor/...

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**SECTION 5: Firefighting measures**

**Extinguishing media**

The product itself does not burn.  
 Co-ordinate fire-fighting measures to the fire surroundings.

**Special hazards arising from the substance or mixture**

The product itself does not burn.

**Advice for firefighters**

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

**SECTION 6: Accidental release measures**

**Personal precautions, protective equipment and emergency procedures**

Provide adequate ventilation.

**Environmental precautions**

Cover drains.  
 Do not allow to enter into soil/subsoil.  
 Do not allow to enter into surface water or drains.

**Methods and material for containment and cleaning up**

Take up mechanically, placing in appropriate containers for disposal.  
 Treat the recovered material as prescribed in the section on waste disposal.  
 Suitable material for taking up  
     Sand  
     Sawdust  
     Chemical binding agents, containing acids

**Reference to other sections**

Safe handling: see section 7  
 Personal protection equipment: see section 8

**SECTION 7: Handling and storage**

**Precautions for safe handling**

Avoid  
     Skin contact  
     Eye contact  
 Wear personal protection equipment (see chapter 8).

**Measures to prevent fire**

The product is not  
     Oxidising  
     Combustible  
     Flammable  
     Explosive  
     Highly flammable  
 No special fire protection measures are necessary.

**Environmental precautions**

Shafts and sewers must be protected from entry of the product.  
 See chapter 8.

**Advices on general occupational hygiene**

When using do not eat, drink, smoke, sniff.



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**BAVARIA WHITE GHOST 3% - FP****SECTION 7: Handling and storage cont'****Conditions for safe storage, including any incompatibilities****Technical measures and storage conditions**

Do not store at temperatures above: +50°C

**Requirements for storage rooms and vessels**

Suitable container/equipment material

Refined steel

Polyethylene (PE)

Unsuitable container/equipment material

Aluminium

Light metal

Copper

Zinc

Alloy, containing copper

Alloy, contains light metal

Iron.

Steel

**Hints on joint storage**

Storage class

12: Non-combustible liquids

**Specific end use(s)**

Fire-extinguishing foams based on synthetic surfactants

Do not use for cleaning purposes.

**Recommendation**

Observe technical data sheet.

**SECTION 8: Exposure controls/personal protection****Control parameters****Substance name: 2-(2-Butoxyethoxy)ethanol**

CAS No.: 112-34-5

EC No.: 203-961-6

**United Kingdom**

long-term occupational exposure limit value: 10 ppm; Limit value type (country of origin): TWA (EN)

short-term occupational exposure limit value: 15 ppm; Limit value type (country of origin): STEL (EN)

peak limitation: ---; Limit value type (country of origin): Ceil (EN)

**European Union**

long-term occupational exposure limit value: 10 ppm; Limit value type (country of origin): TWA (EC)

short-term occupational exposure limit value: 15 ppm; Limit value type (country of origin): STEL (EC)

peak limitation: ---; Limit value type (country of origin): Ceil (EC)

**Germany**

long-term occupational exposure limit value: 10 ppm; Limit value type (country of origin): AGW (DE)

short-term occupational exposure limit value: 15 ppm; Limit value type (country of origin): Peak (DE)

peak limitation: ---; Limit value type (country of origin): Ceil (DE)



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**SECTION 8: Exposure controls/personal protection cont'****Substance name: 1,2-Ethandiol**

CAS No.: 107-21-1

EC No.: 203-473-3

**United Kingdom**

long-term occupational exposure limit value: 20 ppm; Limit value type (country of origin): TWA (EN)

short-term occupational exposure limit value: 40 ppm; Limit value type (country of origin): STEL (EN)

peak limitation: ---; Limit value type (country of origin): Ceil (EN)

**European Union**

long-term occupational exposure limit value: 20 ppm; Limit value type (country of origin): TWA (EC)

short-term occupational exposure limit value: 40 ppm; Limit value type (country of origin): STEL (EC)

peak limitation: ---; Limit value type (country of origin): Ceil (EC)

**Germany**

long-term occupational exposure limit value: 10 ppm; Limit value type (country of origin): AGW (DE)

short-term occupational exposure limit value: 20 ppm; Limit value type (country of origin): Peak (DE)

peak limitation: ---; Limit value type (country of origin): Ceil (DE)

**Exposure controls**

Advices on general occupational hygiene

Minimum standard for preventive measures while handling with working materials are specified in the TRGS 500.

Avoid contact with skin, eyes and clothes.

Remove contaminated, saturated clothing.

Wash contaminated clothing prior to re-use.

Wash hands before breaks and after work.

Apply skin care products after work.

**Eye/face protection**

Suitable eye protection

Eye glasses with side protection

goggles

Face protection shield

Recommended eye protection articles

DIN EN 166

**Hand protection**

Suitable gloves type

Gloves with long cuffs

Suitable material

NBR (Nitrile rubber)

Butyl caoutchouc (butyl rubber)

Breakthrough time (maximum wearing time)

120 min.

Recommended glove articles

DIN EN 374

Breakthrough times and swelling properties of the material must be taken into consideration.

**Body protection**

Body protection: not required.

**Respiratory protection**

Usually no personal respirative protection necessary.

**Environmental exposure controls**

Store concentrate according to national regulations (VAWS).

Do not let the concentrate get into the environment.

If possible, hold back the application solution and dispose of after use.



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**SECTION 9: Physical and chemical properties****Information on basic physical and chemical properties**

Physical state	:	liquid	
Colour	:	yellow	/ brown
pH	at °C 20	:	6,5 - 8,5 DIN 19268
Density	at °C 20	:	1,010 - 1,050 g/ml DIN 12791
Kinematic viscosity	at °C 20	:	< 10 mm <sup>2</sup> /s DIN 51562 Newton
Kinematic viscosity	at °C -15	:	< 30 mm <sup>2</sup> /s DIN 51562 Newton
Solidification point	:	-18°C	DIN ISO 3016
Initial boiling point and boiling range	:	> 100°C	DIN 51751
Water solubility (g/L)	:	completely miscible	OECD 105
Flash point	:	No flash point up to 100 °C.	

**Physical hazards**

Breathing is not possible whilst submerged in the foam. Take care when spraying people!

**Other information**

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**SECTION 10: Stability and reactivity****Reactivity**

Materials to avoid  
Alkali (lye), concentrated  
Alkali metals  
Acid, concentrated  
Oxidising agent, strong  
Reducing agent, strong  
Acid halides

**Chemical stability**

No special measures are necessary.

**Possibility of hazardous reactions**

No special measures are necessary.

**Conditions to avoid**

Do not store at temperatures above: +50°C

**Incompatible materials**

See section 7. No additional measures necessary.

**Hazardous decomposition products**

Pyrolysis products, containing fluorine  
Fluorinated hydrocarbons  
Hydrofluoric acid



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**SECTION 11: Toxicological information****Mixture related information**

Test was carried out with a similar preparation/mixture.

**Non-human toxikological data****Acute oral toxicity**

LD50 > 2000 mg/kg The acute oral toxicity is corresponding to GHS-category 5.

Species Rat

Method OECD 420 Test was carried out with a similar formulation.

**Acute dermal toxicity**

The product has not been tested.

**Acute inhalation toxicity**

The product has not been tested.

**Irritant and corrosive effects****Skin corrosion/irritation**

Not an irritant.

species ---

Method The product has not been tested.  
Test was carried out with a similar preparation/mixture.

**Eye damage/irritation**

Not an irritant.

species ---

Method The product has not been tested.  
Test was carried out with a similar preparation/mixture.

**Irritation to respiratory tract**

The product has not been tested.

**Respiratory or skin sensitisation**

The product has not been tested.

**Repeated dose toxicity**

The product has not been tested.

**Carcinogenicity**

The product has not been tested.

**In vivo mutagenicity/genotoxicity**

The product has not been tested.

**Reproductive toxicity**

The product has not been tested.



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**BAVARIA WHITE GHOST 3% - FP****SECTION 12: Ecological information****Toxicity****Acute (short-term) fish toxicity**

Effective dose LC50 : ~ 5100 mg/L  
 Exposure time : 96 h  
 Species : Leuciscus idus (golden orfe)  
 Method : OECD 203

**Acute (short-term) toxicity to crustacea**

Effective dose EC50 : ~ 600 mg/L  
 Exposure time : 48 h  
 Species : Daphnia magna (Big water flea)  
 Method : OECD 202

**Acute (short-term) toxicity to aquatic algae and cyanobacteria**

Effective dose EC50 : ~ 150 mg/L  
 Exposure time : 72 h  
 Species : Scenedesmus subspicatus  
 Method : OECD 201

**Effects in sewage plants**

Method : Respiratory inhibition of municipal activated sludge.  
 7500 mg/L ► Concentration : 100% Dilution : > 133  
 250000 mg/L ► Concentration : 3% Dilution : > 4  
 The product contains non-biodegradable fluorosurfactants.  
 Some of the components are poorly biodegradable.

**remark**

Observe local regulations concerning effluent treatment.  
 Special pre-treatments are necessary.

**Persistence and degradability****Biodegradation**

Readily biodegradable (according to OECD criteria).  
 Additional information : The product contains non-biodegradable fluorosurfactants.  
 Degradation rate (%) : ~ 97%  
 Test duration : 28 d  
 Analytical method : BOD (% of COD).  
 Method : OECD 302B/ ISO 9888/ EEC 92/69/V, C.9  
 type : Aerobic biological treatment

**Chemical oxygen demand (COD)**

~ 570000 mg\*O2/L ► Concentration : 100% Method DIN EN 38409-H41-1  
 ~ 17100 mg\*O2/L ► Concentration : 3% Method DIN EN 38409-H41-1

**Biochemical oxygen demand (BOD)**

~ 235000 mg\*O2/L ► Concentration : 100% Method DIN EN 1899-1 Test duration 5 d  
 ~ 7050 mg\*O2/L ► Concentration : 3% Method DIN EN 1899-1 Test duration 5 d

**BOD5/COD ratio**

41%

**Bioaccumulative potential**

1,2-ETHANDIOL: No indication of bioaccumulation potential.  
 2-(2-BUTOXYETHOXY)ETHANOL: No indication of bioaccumulation potential.  
 FLUROSURFACTANT: No indication of bioaccumulation potential.

**Mobility in soil**

If product enters soil, it will be mobile and may contaminate groundwater.

**Results of PBT and vPvB assessment**

1,2-ETHANDIOL: This substance does not meet the PBT/vPvB criteria of REACH, annex XIII.  
 2-(2-BUTOXYETHOXY)ETHANOL: This substance does not meet the PBT/vPvB criteria of REACH, annex XIII.  
 FLUROSURFACTANT: This substance does not meet the PBT/vPvB criteria of REACH, annex XIII.

**Other adverse effects**

The product contains non-biodegradable fluorosurfactants.





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**SECTION 13: Disposal considerations****Waste treatment methods**

Dispose of waste according to "Kreislaufwirtschafts- und Abfallgesetz (KrW-/AbfG)".  
Dispose of waste according to applicable legislation.

**List of proposed waste codes/waste designations in accordance with EWC****Waste code product**

**16** WASTES NOT OTHERWISE SPECIFIED IN THE LIST  
**1603** off-specification batches and unused products  
**160305\*** organic wastes containing dangerous substances

**Waste code packaging**

**15** WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED  
**1501** packaging (including separately collected municipal packaging waste)  
**150110\*** packaging containing residues of or contaminated by dangerous substances

**remark**

Delivery to an approved waste disposal company.  
Send to a hazardous waste incinerator facility under observation of official regulations.  
Dispose according to legislation.

**SECTION 14: Transport information****UN number**

none

**UN proper shipping name**

not applicable

**Transport hazard class(es)**

Land transport (ADR/RID)  
No dangerous good in sense of these transport regulations.  
Inland waterway craft (ADN)  
No dangerous good in sense of these transport regulations.  
Sea transport (IMDG)  
No dangerous good in sense of these transport regulations.  
Air transport (ICAO-TI / IATA-DGR)  
No dangerous good in sense of these transport regulations.

**Packing group**

not applicable

**Environmental hazards**

none  
Marine : No  
pollutant

**Special precautions for user**

none

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

not applicable



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**SECTION 15: Regulatory information****Safety, health and environmental regulations/legislation specific for the substance or mixture****EU legislation**

Regulation (EC) No. 2037/2000 concerning materials, which cause damage to the ozone layer.  
not applicable

**Regulation (EC) No. 304/2003 of the European parliament and of the council concerning the export and import of dangerous chemicals**  
not applicable

**Directive 96/59/EC (PCB-guideline)**  
not applicable

**Regulation (EC) No. 648/2004 (Detergents regulation)**  
The surfactants contained in this preparation comply with the biodegradability criteria as laid down in Regulation (EC) No.648/2004 on detergents.

**Information according to 1999/13/EC about limitation of emissions of volatile organic compounds (VOC-guideline).**  
Volatile organic compounds (VOC) content in percent by weight: max. 10

**Regulation (EC) No. 842/2006 on certain fluorinated greenhouse gases**  
not applicable

**National regulations**  
Störfallverordnung  
Not subject to StörfallVO.

**Water hazard class (WGK)**  
slightly hazardous to water (WGK 1)  
Classification according to VwVwS, Annex 4.

**annex Chemikalien-Verbotsverordnung (ChemVerbotsV)**  
not applicable

**Chemical Safety Assessment**

Chemical safety assessments for substances in this mixture were not carried out.

**SECTION 16: Other information**

The product described in the Safety Data Sheet may only be used for its intended purpose. For exercises please observe the recommendations of the technical committee of BMU/LAMA. The details in this safety data sheet are based on today's stand of our knowledge and is applicable to the product with regard to appropriate safety precautions. They do not represent any guarantee of the properties of the product and do not establish any legal relationship.

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

**Relevant R-, H- and EUH-phrases (Number and full text)**

H302 Harmful if swallowed.  
H319 Causes serious eye irritation.  
H373.8 May cause damage to kidneys through prolonged or repeated exposure if swallowed.