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SAFETY DATA SHEET

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

1.1 Product identifier

- Product Name: PFX-MEDIUM FOG
- Product Part Number: 60603
- Product Description: Aqueous solution of glycols

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

- Use of the substance/mixture: Special effects fluid (fog and smoke effects)
- Use advised against: Not for internal use.

1.3 Details of the supplier of the safety data sheet

- Name of Supplier: PULSE
- Address of Supplier: Premier Farnell UK Limited
  150 Armley Road
  Leeds
  LS12 2QQ
  UK
- Telephone: +44 (0)870 129 8608
- Email: Info@pulse-audio.co.uk

1.4 Emergency telephone number

- Emergency Telephone: +44 (0)8447 88 00 88

SECTION 2 Hazards identification

2.1 Classification of the substance or mixture

- Classification (REGULATION (EC) No 1272/2008) [CLP/GHS]: Not Classified
- Additional information: For full text of Hazard and EU Hazard statements: see section 16

2.2 Label elements

- This product does not need to be labelled in accordance with EC Regulations and Directives
  - Signal Word: None
  - Symbols: None
- Hazard phrases
  None
- Precautionary Phrases
  None

2.3 Other hazards

- May be harmful if swallowed
- May cause respiratory tract irritation.
- Not flammable but will support combustion
- Not a PBT according to REACH Annex XIII
- Not a vPvB according to REACH Annex XIII

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SECTION 3 Composition/information on ingredients

3.1 Substances

3.2 Mixtures

- 2,2'-oxydiethanol; 2,2'-oxybisethanol; diethylene glycol;
  Concentration: 1 - 9%
  CAS Number: 111-46-6
  EC Number: 203-872-2
  Classification (REGULATION (EC) No 1272/2008) [CLP/GHS]: Acute Tox. 4, H302, STOT RE 2, H373
  REACH Registration Number: 01-2119457857-21-XXXX
  Substance with a workplace exposure limit, see Section 8
- other glycols
  Concentration: 1 - 50%
  Classification (REGULATION (EC) No 1272/2008) [CLP/GHS]: Not Classified

SECTION 4 First aid measures

4.1 Description of first aid measures

- Contact with eyes
  If substance has got into eyes, immediately wash out with plenty of water for several minutes
  Irrigate eyes thoroughly whilst lifting eyelids
  If eye irritation persists: Get medical advice/attention.
- Contact with skin
  Remove contaminated clothing immediately and drench affected skin with plenty of water. Then wash with soap and water
  If skin irritation or rash occurs: Get medical advice/attention.
- Ingestion
  If swallowed, rinse mouth with water (only if the person is conscious)
  Give 200-300mls (half pint) water to drink
  Get immediate medical advice/attention.
- Inhalation
  Remove victim to fresh air and keep at rest in a position comfortable for breathing.
  If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.

4.2 Most important symptoms and effects, both acute and delayed

- Vapours or aerosols may cause irritation of eyes, nose and respiratory tract
- The ingestion of significant quantities may cause damage to kidneys

4.3 Indication of any immediate medical attention and special treatment needed

- Treat symptomatically
- Monitoring is advised of cardio-vascular, lung and CNS functions as well as acid-base balance and kidney and liver parameters.

SECTION 5 Fire-fighting measures

5.1 Extinguishing media

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SECTION 5 Fire-fighting measures (....)

- In case of fire use water, alcohol resistant foam, carbon dioxide or dry agent
- Unsuitable extinguishing media: high volume water jet

5.2 Special hazards arising from the substance or mixture

- Gives off irritating or toxic fumes (or gases) in a fire.
- May form explosive vapour/air mixtures
- Decomposition products may include carbon oxides

5.3 Advice for firefighters

- Special protective equipment: Wear self-contained breathing apparatus (SCBA). Wear full protective clothing including chemical protection suit.
- Keep container(s) exposed to fire cool, by spraying with water
- Shut off all ignition sources
- Collect contaminated fire extinguishing water separately. This MUST not be discharged into drains. Prevent fire extinguishing water from contaminating surface or ground water.

SECTION 6 Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

- Do not breathe spray/mists
- Ensure adequate ventilation
- Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- Avoid contact with skin and eyes.

6.2 Environmental Precautions

- Do not flush spilt material into any public water system
- Do not allow to enter public sewers and watercourses
- If contamination of drainage systems or water courses is unavoidable, immediately inform appropriate authorities

6.3 Methods and material for containment and cleaning up

- Absorb spillage in inert material and shovel up
- Place in appropriate container
- Seal containers and label them
- Remove contaminated material to safe location for subsequent disposal
- Ventilate the area and wash spill site after material pick-up is complete
- Wash thoroughly after dealing with spillage

6.4 Reference to other sections

- See Section 8 & 13

SECTION 7 Handling and storage

7.1 Precautions for safe handling

- Avoid breathing vapours, mist or gas
- Use only in well ventilated areas
- May form explosive vapour/air mixtures
- Vapours are heavier than air and may travel considerable distances to a source of ignition and flashback
- Avoid contact with skin and eyes
- When using do not eat, drink or smoke
- Wash thoroughly after handling.
- Contaminated clothing should be laundered before reuse
- Contaminated work clothing should not be allowed out of the workplace.

SECTION 7 Handling and storage (....)

- Eyewash bottles should be available
- See Section 8

7.2 Conditions for safe storage, including any incompatibilities

- Store in a dry place. Store in a closed container.
- Keep container in a well ventilated place
- Keep in an area equipped with impermeable flooring.
- Protect from light
- Keep away from oxidisers, heat, flames or ignition sources
- Keep away from acids and alkalis
- Keep away from food, drink and animal feedingstuffs
- Store at ambient temperature
- Storage containers should not be made from aluminium, zinc, copper and tin

7.3 Specific end use(s)

- Special effects fluid (fog and smoke effects)

SECTION 8 Exposure controls/personal protection

8.1 Control parameters

Special effects fogs produced using this product shall be considered to meet the requirements of the Entertainment Services and Technology Association (ESTA) Standard E1.5 - 2009 if the concentration of total dihydric and trihydric alcohols breathed by a worker or audience member is no greater than 10 mg/m3 TWA long-term exposure and 40 mg/m3 short-term peak exposure.

- 2,2'-oxydiethanol; 2,2'-oxybisethanol; diethylene glycol;
  WEL (long term) 23 ppm (UK EH40)
  WEL (long term) 101 mg/m3 (UK EH40)
  Where no specific short-term exposure limit is listed, a figure three times the long-term exposure limit should be used.
  DNEL (dermal) 106 mg/kg (bw/day) Industry, Long Term, Systemic Effects
  DNEL (inhalational) 60 mg/m3 Industry, Long Term, Local Effects
  DNEL (dermal) 53 mg/kg (bw/day) Consumer, Long Term, Systemic Effects
  DNEL (inhalational) 12 mg/m3 Consumer, Long Term, Local Effects
  PNEC (fresh water) 10 mg/l
  PNEC (marine water) 1 mg/l
  PNEC (intermittent releases) 10 mg/l
  PNEC (sediment) 20.9 mg/kg
  PNEC (STP) 199.5 mg/l
  PNEC (soil) 1.53 mg/kg

- other glycols
  (Germany) MAK 1000 mg/m3
  DNEL (dermal) 40 mg/kg (bw/day) Industry, Long Term, Systemic Effects
  DNEL (inhalational) 50 mg/m3 Industry, Long Term, Local Effects
  DNEL (dermal) 20 mg/kg (bw/day) Consumer, Long Term, Systemic Effects
  DNEL (inhalational) 25 mg/m3 Consumer, Long Term, Local Effects
  PNEC (fresh water) 10 mg/l
  PNEC (marine water) 1 mg/l
  PNEC (fresh water sediment) 46 mg/kg
  PNEC (soil) 3.32 mg/kg
  PNEC (STP) 10 mg/l

8.2 Exposure controls

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SECTION 8 Exposure controls/personal protection (....)

- Engineering controls should be provided which maintain airborne concentrations below the relevant guidelines
- Wear protective gloves/protective clothing/eye protection/face protection.
- The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and standard EN 374.
- The selection of a suitable glove depends on work conditions and whether the product is present on its own or in combination with other substances. Breakthrough time is dependent on the characteristics of the brand of glove used and the supplier should be consulted.
- Glove material: natural rubber; PVC; butyl rubber
  Thickness: 0.5mm
  Breakthrough time: >=8 h
  Reference: GESTIS
- Wear safety glasses approved to standard EN 166.
- In case of inadequate ventilation wear respiratory protection.
- Where an air-purifying respirator is required, use EN 141, EN 405, EN 14387, Type A


Gloves


Suit


Goggles


Respirator


No Smoking

SECTION 9 Physical and chemical properties

9.1 Information on basic physical and chemical properties

- Appearance: Liquid, clear, colourless
- Odour: None
- Odour threshold: No information available
- pH: 6 - 8
- Melting point/freezing point: (Lit) -2°C
- Initial boiling point and boiling range: >100°C
- Flashpoint: >60°C
- Evaporation Rate: No information available
- Flammability (solid,gas): Not applicable
- Upper/lower flammability or explosive limits: Upper explosive limit (diethylene glycol) 22 % (in air), Lower explosive limit (diethylene glycol) 0.7 % (in air)
- Vapour Pressure: No information available
- Vapour Density: No information available
- Relative Density: Approx. 1
- Solubility(ies): Soluble in water
- Partition Coefficient (n-Octanol/Water): No information available
- Autoignition Temperature: No information available
- Decomposition temperature: No information available
- Viscosity: No information available
- Explosive Properties: May form explosive mixtures with air
- Oxidising Properties: No information available

9.2 Other information

- No information available

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SECTION 10 Stability and reactivity

10.1 Reactivity

- No decomposition if stored normally.

10.2 Chemical stability

- Considered stable under normal conditions

10.3 Possibility of hazardous reactions

- Reacts with oxidizing substances
- Reacts with acid

10.4 Conditions to avoid

- Keep away from heat and sources of ignition

10.5 Incompatible materials

- Incompatible with strong acids
- Incompatible with alkalis (strong bases)
- Incompatible with oxidizing substances

10.6 Hazardous Decomposition Products

- Decomposition products may include carbon oxides
- Decomposition products may include aldehydes
- Decomposition products may include alcohols and ethers

SECTION 11 Toxicological information

11.1 Information on toxicological effects

- Acute Toxicity
  The main route of exposure is oral, with a limited effect via dermal absorption. Data from animal experiments show low toxicity by inhalation .
  Lethal dose for man: 1g/kg/bw diethylene glycol
  ATE mix (oral) (calculated) >2000 mg/kg
  LD50 (oral) : (human) (diethylene glycol) 1120 mg/kg
  LD50 (oral,rat) (diethylene glycol) 12600 mg/kg
  LD50 (oral,rat) (other glycols) 17000 mg/kg
  LC50 (inhalation, rat) (diethylene glycol) > 4.6 mg/l/4h
  LC50 (inhalation, rat) (other glycols) > 5.2 mg/l/4h
  LD50 (dermal,rabbit) (diethylene glycol) 13300 mg/kg
  LD50 (dermal,rabbit) (other glycols) >22500 mg/kg
  Based on available data, the classification criteria are not met
- Skin corrosion/irritation
  Based on available data, the classification criteria are not met
- Serious eye damage/irritation
  Based on available data, the classification criteria are not met
- Respiratory or skin sensitisation
  Based on available data, the classification criteria are not met
- Germ cell mutagenicity
  No evidence of mutagenic effects
- Carcinogenicity
  No evidence of carcinogenic effects
- Reproductive toxicity
  No evidence of reproductive effects

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SECTION 11 Toxicological information (....)

- Specific target organ toxicity (STOT) - single exposure
  No information available
- Specific target organ toxicity (STOT) - repeated exposure
  - Can cause damage to: Kidneys (oral route) through prolonged or repeated exposure of concentrated diethylene glycol
- Aspiration hazard
  No information available
- Contact with eyes
  Mildly irritating to eyes
- Contact with skin
  May cause irritation
- Ingestion
  The ingestion of significant quantities may cause dizziness, confusion, headache or stupor
  The ingestion of significant quantities may cause drowsiness
  The ingestion of significant quantities may cause diarrhoea
  The ingestion of significant quantities may cause damage to kidneys
  The ingestion of significant quantities may cause damage to central nervous system

  The ingestion of significant quantities may cause damage to liver
  The ingestion of significant quantities may cause nausea/vomiting
- Inhalation
  Effect may vary from irritation of the nasal mucous membrane to severe lung irritation.

  May cause coughing
  May cause dry throat
  In cases of severe exposure, irritation of the respiratory tract may develop
  In cases of severe exposure, drowsiness may develop
  In cases of severe exposure, dizziness, confusion, headache or stupor may develop

SECTION 12 Ecological information

12.1 Toxicity

- No experimental test data available for the mixture
- 2,2'-oxydiethanol; 2,2'-oxybisethanol; diethylene glycol;
  LC50 (Fathead minnow) 75200 mg/l (96hr)
  EC50 (Daphnia magna) >10000 mg/l (48 hr)
  NOEC (scenedesmus quadricauda) 2700 mg/l/8 days
- other glycols
  LC50 (fish) 59900-92500 mg/l (96 hr)
  LC50 (crustaceans) 39300-52400 mg/l (48 hr)
  EC50 (crustaceans) 42400-52400 mg/l (48 hr)
  EC50 (Daphnia magna) >10000 mg/l (48 hr)

12.2 Persistence and degradability

- Readily biodegradable

12.3 Bioaccumulation Potential

- Bioaccumulation is not expected

12.4 Mobility in soil

SECTION 12 Ecological information (....)

- Completely soluble in water

12.5 Results of PBT and vPvB assessment

- Not a PBT according to REACH Annex XIII
- Not a vPvB according to REACH Annex XIII

12.6 Other Adverse Effects

- Water Hazard Class 1 (Germany)

SECTION 13 Disposal considerations

13.1 Waste treatment methods

- This material and/or its container must be disposed of as hazardous waste
- Contaminated absorbent must be removed in sealed, plastic lined drums.
- Do not reuse empty containers without commercial cleaning or reconditioning
- Do not pierce or burn container, even after use
- Empty containers may contain flammable vapours
- Avoid release to the environment.
- Disposal should be in accordance with local, state or national legislation

13.2 Classification

- The waste must be identified according to the List of Wastes (2000/532/EC)
- Waste Codes in accordance with the European Waste catalogue (EWC) are origin-defined. Since this product is used in several industries, no Waste Code can be provided by the supplier. The Waste Code should be determined in arrangement with your waste disposal partner or the responsible authority.

SECTION 14 Transport information

Not classified as hazardous for transport

14.1 UN Number

- UN No.: Not applicable

14.2 UN Proper Shipping Name

- Proper Shipping Name: Not applicable

14.3 Transport hazard class(es)

- Hazard Class: Not applicable

14.4 Packing group

- Packing Group: Not applicable

14.5 Environmental hazards

- Not Classified

14.6 Special precautions for user

- No special precautions are required for this product

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code

- Not applicable

14.8 Road/Rail (ADR/RID)

- Proper Shipping Name: Not applicable
- ADR UN No.: Not applicable
- ADR Hazard Class: Not applicable
- ADR Packing Group: Not applicable
- Tunnel Code: Not applicable

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SECTION 14 Transport information (....)

14.9 Sea (IMDG)

- Proper Shipping Name: Not applicable
- IMDG UN No.: Not applicable
- IMDG Hazard Class: Not applicable
- IMDG Pack Group.: Not applicable

14.10 Air (ICAO/IATA)

- Proper Shipping Name: Not applicable
- ICAO UN No.: Not applicable
- ICAO Hazard Class: Not applicable
- ICAO Packing Group: Not applicable

SECTION 15 Regulatory information

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

- This Safety Data Sheet is provided in compliance with REACH Regulation (EC) No 1907/2006 as amended by Regulation (EU) 2015/830
- Regulation (EC) No. 1272/2008 on the classification, labelling and packaging of substances and mixtures (CLP Regulation) applies in Europe

15.2 Chemical Safety Assessment

- A REACH chemical safety assessment has been carried out

SECTION 16 Other information

The information supplied in this Safety Data Sheet is designed only as guidance for the safe use, storage and handling of the product. This information is correct to the best of our knowledge and belief at the date of publication, however no guarantee is made to its accuracy. This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any other process.

Text not given with phrase codes where they are used elsewhere in this safety data sheet:

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