

Material Safety Data sheet

Latest Revision: 01/11/2005

MSDS No :

Fomtec AFFF 1% (ICAO Grade), 3% (ICAO) & 6% (ICAO)

1. IDENTIFICATION OF THE CHEMICAL AND RESPOSIBLE COMPANY

Approved for use
Approved for Lab Use

TRADE NAME Fomtec AFFF 1% (ICAO Grade), 3% (ICAO) & 6% (ICAO)
PRODUCT TYPE FIRE EXTINGUISHING FOAM CONCENTRATE.

| | |
|-------------------------|---|
| Producer | Dafo Fomtec AB |
| Address | P. O. Box 683 |
| Zip / City | SE-135 26 Tyresö |
| Country | Sweden |
| Telephone | +46-8 506 405 66 |
| Fax | +46-8 506 405 29 |
| Emergency number | Contact local poison information center |

2. INFORMATION ABOUT CHEMICAL COMPOSITION

| No | Name of Ingredient | CAS-No | EINECS-No | Cons.Weight% 1%(ICAO Grade) and 3%(ICAO) or 6% (ICAO) | Health class |
|----|---------------------------|------------|-----------|---|--------------|
| 1 | Water | 7732-18-5 | 231-791-2 | Balance | |
| 2 | 2-(2-butoksyetoksy)etanol | 112-34-5 | 203-961-6 | 3-18 | Xi R36 |
| 3 | Hydrocarbon surfactants | - | - | 3-20 | Xi, R36/38 |
| 4 | Fluorosurfactants | - | - | <5 | Xi R,36/38 |
| 5 | Polyethylene glycol | 25322-68-3 | 500-038-2 | 1-5 | |
| 6 | Monopropylene glycol | 57-55-6 | 200-337-5 | 5-20 | |

3. HAZARDS IDENTIFICATION

May cause irritation to skin and eyes. Ingestion may cause nausea, vomiting and diarrhea.

4. FIRST AID MEASURES

GENERAL

Move the patient away from the hazardous material as soon as possible. Keep the patient calm, warm and provide fresh air. If the patient is unconscious, but is breathing, make sure to keep breathing ways open and lay the patient in stable side position. Give respiratory aid if patient is not breathing and seek medical advice immediately.

INHALATION

Read items under "General". At sign of loss of consciousness or other symptoms, a physician must be contacted.

SKIN CONTACT

Remove contaminated clothing as well as wristwatch etc. Wash skin thoroughly with soap and clean gently flowing water. Use skin cream to replace loss of natural skin fat. If persistent irritation occurs seek medical advice.

EYE CONTACT

Flush immediately with a soft flow of body temperature water for at least ten minutes holding the eyelids apart. Remove Contact lenses. Continue to flush for at least 15 minutes, Contact a medical doctor.

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INGESTION

DO NOT INDUCE VOMITING. Rinse mouth with water and give 1-2 glasses of water to drink if the patient is conscious.

MEDICAL INFORMATION

If any symptoms persist seek medical advice and treat symptomatically.

5. FIRE FIGHTING MEASURES

SUITABLE FIRE FIGHTING AGENTS

No specific measures are required as the product itself is a fire fighting agent. If product containers are involved in fire, then a suitable extinguishing agent should be used.

PERSONAL PROTECTION

Evacuate all personnel, use protective clothing use breathing apparatus if required.

OTHER INFORMATION

Stop release of product to fire, Keep away from heat, use water to cool tanks. Move tanks from fire area if possible without risk. Fire to be fought from safe distance. Poisonous decomposition products may be created during a fire.

6. ACCIDENTAL RELEASE MEASURES

SAFETY MEASURES TO PROTECT PERSONNEL

Provide good ventilation, Keep unauthorized persons away. Do not breathe mists, aerosols. Avoid contact with eyes, skin and clothing. Use necessary protective aid/clothing.

SAFETY MEASURES TO PROTECT THE ENVIRONMENT

Seal off the spill area with absorbing materials to avoid spreading of release to water or water treatment systems. Shovel up the absorbed material and place in a labeled, sealed container for subsequent disposal.. The practice of washing into drains should be avoided.

CLEAN-UP METHODS TO MINIMISE ENVIRONMENTAL DAMAGE.

Stop the leakage if possible without risk. Spill can be pumped or absorbed into dry, inert material such as sand or soil etc. Contained material should be stored in sealed, marked containers and should be treated as indicated under clause 13 'Disposal Considerations'.

7. HANDLING AND STORAGE

HANDLING PRECAUTIONS

The product should be diluted before use. Avoid skin and eye contact. Use personal protective equipment according to section 8. Avoid spill around the containers, the material may be slippery.

STORAGE PRECAUTIONS

Product should be stored in sealed, original containers. Freezing and thawing do not effect the properties but care must be taken to avoid freezing of the container and its contents since the expansion of the container contents may cause cracking of the completely rigid container as ice forms.

8.EXPOSURE CONTROLS AND PERSONAL PROTECTION

OCCUPATIONAL EXPOSURE LIMIT

PREVENTIVE MEASURES

Keep good hygiene. Remove contaminated cloths. Do not keep towels etc saturated with the product in pockets. Emergency eye flush and emergency shower should be installed at the working area. Use only in well ventilated areas.

PROTECTIVE BREATHING EQUIPMENT

At repeated exposure, use gas filter A/P2 (organic gases and dust). Use breathing apparatus or fresh air masks when working in areas with low oxygen.

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EYE PROTECTION

Wear safety goggles of an approved type (e.g. BS 2092) or face screen.

HAND PROTECTION

Use protective gloves of an approved type (e.g. Butyl rubber EVOH, Neoprene).

9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|--------------------------|--|
| Type of material: | Liquid |
| Colour: | Clear pale yellow |
| Odour: | Organic odour |
| Solubility: | Miscible with water in all proportions |
| Freeze point: | 3% = -5 C, 6% = -5 C |
| Specific gravity at 20 C | 1.00 – 1.02 |
| pH | 6.5 – 8.5 |
| Boiling point | 100 C at 760mm Hg |
| Flash point: | >98 C |
| Flammability | Not flammable |

10. STABILITY AND REACTIVITY

STABILITY

The product is stable under normal storage and use. As with all aqueous solutions Fomtec AFFF's should be excluded from contact with any material which may have violent reactions with water. Shelf life: Ca. 10 years.

REACTS WITH

Oxidizing materials.

HAZARDOUS DECOMPOSITIONS PRODUCTS

Do not expose containers to heat or flame, since the containers are made of high density polyethylene and will burn. Thermal decomposition of containers and/or products may generate acrid smoke, fumes, carbon monoxide, carbon dioxide (oxygen depleting), traces of nitrogen oxide and Sox.

11. TOXICOLOGICAL INFORMATION

INHALATION

Inhalation of hazardous amounts is unlikely when used as intended. May cause irritation to respiratory tract when inhaled.

SKIN AND EYE CONTACT

Prolonged and repeated contact may cause irritation and dry skin. Vapors or spill into the eyes can cause irritation, redness, pain and discomfort.

INGESTION

Low oral risk when used as intended. Can give some irritation in the mouth, throat and stomach. Nausea and vomiting can occur

AQUATOXICITY OF CONCENTRATE

Data has been deduced from a similar product

| | | 3% | 6% |
|---------------|-----------------|-----------|-----------|
| Rainbow Trout | LC50 (96 hours) | >2000mg/l | >4000mg/l |
| Daphnia Magna | EC50 (24 hours) | >1000mg/l | >2000mg/l |

12. ECOLOGICAL INFORMATION

BIODEGRADABILITY

The product is biodegradable

| | |
|----------------|------------|
| BOD (5 days) | 410000mg/l |
| COD | 584500mg/l |
| Biodegradation | 70.15% |

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BIOACCUMULATION

Not expected to bioaccumulate due to metabolism and excretion.

13. DISPOSAL CONSIDERATIONS

Waste should be disposed via local authority waste collection service or registered waste carrier ensuring that the destination is a licensed facility. All packaging shall be emptied and removed according to regulations, or be re circulated without removal of labeling.

Local Legislation: Control of Pollution act 1974
Special Waste Regulation 1996

14. TRANSPORT INFORMATION

Not classified as Dangerous or hazardous for transport under UN, IMO, ADR/RID and IATA/ICAO – regulations

15. REGULATORY INFORMATION

Label For Supply : None required

Risk Phrases: R36 / R38 Irritating to eyes and skin

REFERENCES

Health and Safety at work Act 1974

Chemicals (Hazard Information & Packaging for supply) Regulations 1994 / Amendment 1996

EC Directives: Substance Directive 67/548/EEC as amended by 69/81/EEC, 75/409/EEC, 79/831/EEC General
Preparations Directive 88/379/EEC.

Classification and Labelling of Substances and Preparations Dangerous for Supply.

Transport of Dangerous Goods: ADR,RID,IMDG and IATA

Guidance Notes: Occupational Exposure Limits EH40/96

Note: EH40 is revised on an annual basis and latest issue should therefore be applied.

16. OTHER INFORMATION

RELEASED: 01/11/2005

INFORMATION SOURCES

Datasheet from the suppliers

Work protection agency information pamphlet about protective equipment

Work protection agency information pamphlet about gloves

“What you Need to know when you use protective breathing equipment” (Information, order number.: 539, Work protection agency)

Sax,N.I. and R.J. Lewis,Sr: Dangerous Properties of Industrial Materials, Seventh Edition, Volumes 1 to 3 (1991).

DISCLAIMER: This information is based on our current knowledge and is intended to describe the product for the purpose of health, safety and environmental requirements. The product should not be used for purposes other than fire fighting. The user is responsible for ensuring that requirements of relevant legislation are complied with.