

SAFETY DATA SHEET

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier:

AF-X Fireblocker

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

To extinguish fire. For industrial and professional use.

Dry Fire Extinguisher, suitable for confined areas (e.g. engine rooms, technical areas, server rooms for computers, cargo compartments vehicles, storage facilities, etc.).

White extinguishant tablets placed in extinguishing Unit.

Composition: Tablets consisting of a mixture of predominantly Potassium Nitrate and epoxy resin placed in extinguishing Units.

Synonyms: Fire Extinguisher unit

In accordance with Regulation 1907/2006/EC (REACH), the product is considered an article, for which a safety data sheet is not required. The following information is only indicative in order to ensure safe use of the product.

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

Information about the mixture manufacturer downstream user:

AF-X Systems BV

Impuls 20

1446 WX

Purmerend

The Netherlands

Tel: +31202050484

1.3.1. Responsible person:

Ralph Hooglandt

E-mail:

Ralph@af-x.com

1.4. Emergency telephone number:

National Poisons Information Service (NPIS)

NHS 111 (England), NHS 24 (Scotland) or NHS Direct (Wales) – dial 111

In Northern Ireland contact your local GP

Healthcare Professionals: UK NPIS 0344 892 0111

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture:

Classification according to Regulation (EC) No 1272/2008 (CLP):

Flammable solids, Hazard Category 1 – H228

Hazard statements:

H228 – Flammable solid.

Emergency overview:

The pyrotechnic mixture is a fire extinguishant. If heated to temperatures of above 350 °C the mixture will create a deflagration with heat radiation only in the immediate vicinity of the materials. The created "smoke" (aerosols) is the intended extinguishing agent.

2.2. Label elements:



Hazard statements:

H228 – Flammable solid.

Precautionary statements:

P210 – Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P280 – Wear protective gloves/protective clothing/eye protection/face protection.

P370 + P380 – In case of fire: Evacuate area.

2.3. Other hazards:

Risk of burn injuries in case of direct contact with the surface of the generator when heated by activation.

Unconsciousness due to inhaling aerosols when generator has been activated.

Do not handle device shortly after ignition because of heated device.

Results of PBT and vPvB assessment: This mixture does not contain any components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1 % or higher in accordance with Annex XIII of Regulation 1907/2006/EC.

Endocrine disrupting property: The mixture does not contain any components considered to have endocrine disrupting properties in accordance with Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1 % or higher.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances:

Not applicable.

3.2. Mixtures:

Provided information based on extinguishing agent tablets contained in the unit (before initiation). Note that the steel generator is constructed in such a way, that it can practically not be opened. Exposure to, and thus contact with the extinguishing agent is highly unlikely.

Device:

The chemical part of the device contains the in this chapter mentioned components. Devices shall only be opened by destroying the whole entity. There is no risk to be exposed to the contents of the generator, except in cases of loss of tightness due to mechanical stress.

Chemical description: Tablets consisting of a mixture of predominantly potassium nitrate and epoxy resin placed in extinguishing Units.

Description: White extinguishant tablets placed in extinguishing Unit.

Description	CAS number	EC number / ECHA list number	REACH registration number	Conc. (%)	Classification according to Regulation (EC) No 1272/2008 (CLP)		
					Pictogram, signal word code(s)	Hazard class and category code(s)	Hazard statement code(s)
Phenol-formaldehyde resin*	28906-96-9	620-316-8	-	<25	GHS07 GHS09 Warning	Skin Irrit. 2 Skin Sens. 1 Eye Irrit. 2 STOT SE 3 Aquatic Chronic 2	H315 H317 H319 H335 H411

*: Classification specified by the manufacturer; the substance is not listed in Annex VI of the Regulation (EC) No 1272/2008.

For the full text of hazard statements, see Section 16.

SECTION 4: FIRST AID MEASURES

Provided information based on extinguishing agent tablets contained in the unit (before initiation).

Note that the steel generator is constructed in such a way, that it cannot be opened. Exposure to, and thus contact with, the extinguishing agent in tablet form is highly unlikely. In case however of breaking or opening of a generator, evacuate people from the contaminated area and provide maximum ventilation.

If extinguisher unit is initiated, the generator releases the fire extinguishing aerosol mixture. Although only natural occurring and environmental neutral elements will be produced, the particle sizes in the direct environment will be microscopically small, and for that reason requires protection for the respiratory system.

Inhalation of small particles must be prevented as much as possible.

4.1. Description of first aid measures:

General information: In general, in case of doubt or if symptoms persist, always call a physician. Never give anything by mouth to an unconscious person.

In case of breaking or opening of a generator, evacuate people from the contaminated area and provide maximum ventilation.

INGESTION:

Measures:

- Rinse mouth immediately with water if the victim is conscious.
- Consult a physician and show this safety sheet.

INHALATION:

Measures:

- Inhalation of gas: Take the victim into fresh air. Ventilate the area. Consult a physician.
- Inhalation of dust: Take the victim into fresh air. In case of difficult breathing, apply extra oxygen. Consult a physician.

SKIN CONTACT:

Measures:

- Remove large particles.
- Rinse and wash with soap and water.

EYE CONTACT:

Measures:

- In case of contact with eyes flush with water holding eyelids apart (for at least 15 minutes).
- Consult a physician.

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

No acute and delayed symptoms and effects known.

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

No special treatment needed; treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

The unit itself is designed to extinguish fire.

5.1. Extinguishing media:

5.1.1. Suitable extinguishing media:

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Dry powder and dry sand are also suitable.

5.1.2. Unsuitable extinguishing media:

No data available.

5.2. Special hazards arising from the substance or mixture:

If material is heated to the self-ignition temperature of 350 °C, the mixture will react into a fire extinguishing aerosol that will present itself as a white cloud. The aerosol cloud will itself be an extinguishing media for surrounding fires.

When ignited, fire-fighting extinguishant will be developed. The white aerosol cloud developed, may be confused with smoke but is actually the fire-extinguishing agent. The self-ignition temperature of the material is around 350 °C.

No direct explosion hazard in vicinity of product in powder and tablet form.

5.3. Advice for firefighters:

Exposure to fire/heat: keep upwind, consider evacuation and have neighbourhood close doors and windows.
Cool packages/tanks or loose product with water spray from safe distance (min. 5 Meters), and if possible, remove them into safety. Do not move the load if already exposed to excessive heat. Exercise caution when fighting any chemical fire.
Do not breathe fumes. Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
Avoid mechanical shocks.
Avoid high temperatures.
Use water spray to cool unopened packages.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Accidental release measures are presented when a generator has not ignited. Only by inappropriate handling the content of the device can be released.

6.1. Personal precautions, protective equipment and emergency procedures:

6.1.1. For non-emergency personnel:

Allow only well-trained experts wearing suitable protective clothing to abide in the field of accident.
Evacuate personnel to safe areas.
For personal protection see section 8.

6.1.2. For emergency responders:

Always ensure your own safety first. Ensure adequate air ventilation. Avoid contact with skin, clothing and eyes. Avoid raising dust. Ensure a low relative humidity in the room. As the extinguishing particles are microscopically small, they might attract moist. Create a corrosion stop to protect sensitive electronical equipment if present. Also see 'Methods for cleaning up' under 6.3.
Protective equipment: Wear suitable respiratory equipment in case of insufficient ventilation or in case of prolonged exposure.

6.2. Environmental precautions:

Dispose of the spillage and the resulting waste according to the applicable environmental regulations. Do not allow the product and the resulting waste to enter sewers/soil/surface or ground water. Notify the respective authorities in accordance with local law in the case of environmental pollution immediately.

6.3. Methods and material for containment and cleaning up:

For containment:

Minimize generation of dust. Stop leaks if safe to do so.

Methods for cleaning up:

First ensure that the relative humidity in the room stays below 30% to ensure a corrosion stop.

Collect spillage (Vacuum clean, sweep up and shovel). Take up mechanically, placing in appropriate containers for recovery or disposal. E.g.: collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal (transport/Handling).

Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling.

Special cleaning advise for the dry or iced cleaning of sensitive electronics can be obtained at the AF-X Systems technical department.

Other information:

Do not wash out with water in a sensitive environment. Dispose the product, depending on the degree and type of contamination in an authorized waste disposal site.

6.4. Reference to other sections:

For further and detailed information see Sections 1, 8 and 13.

SECTION 7: HANDLING AND STORAGE

The content cannot be released under normal or reasonably foreseeable conditions of use including proper disposal if they are used in accordance with the manufacturer's recommendations.

7.1. Precautions for safe handling:

Observe conventional hygiene precautions.

The chemical content within the generator is safely contained in normal condition of use.

Avoid breathing dust.

Avoid contact with skin and eyes.

Always wash hands after handling the product.

Do not eat, drink or smoke when using this product.

Wash contaminated clothing before reuse.

Technical measures:

Avoid raising dust.

Ensure adequate ventilation.

Provide appropriate exhaust ventilation at places where dust is formed.

In case of inadequate ventilation wear respiratory protection.

Wear protective gloves/protective clothing/eye protection as advised in section 8.

Protect from moisture.

Precautions against fire and explosion:

Do not open, drill, incinerate, crush, immerse, or expose to temperatures above the operating temperature range reported for products.

Keep the generator short-circuited when not in use.

7.2. Conditions for safe storage, including any incompatibilities:

Technical measures and storage condition:

Store in a dry and cool, well-ventilated place away from sources of heat, ignition and direct sunlight.

Store in preferably in the original storage/transport packaging.

Substance is hygroscopic.

Keep substance away from: ignition sources. heat sources, strong bases, oxidizing agents, combustible materials, organic materials.

Avoid unnecessarily exposure to air to prevent absorption of moisture.

Meet the legal requirements.

No open flames, no sparks, and no smoking.

Keep packaging closed when not in use.

Do not store in unlabelled containers.

Storage temperature: between -20 °C and 50 °C, ideally 20 °C.

Incompatible materials: See Section 10.5.

Packaging material: No special prescriptions.

7.3. Specific end use(s):

Consult the identified uses in the User Manual of this product.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters:

Occupational exposure limit values (EH40/2005 Workplace Exposure Limits):

The components of the mixture are not regulated with exposure limit value.

DNEL values		Oral exposure		Dermal exposure		Inhalative exposure	
		Short term (acute)	Long term (chronic)	Short term (acute)	Long term (chronic)	Short term (acute)	Long term (chronic)
Consumer	Local	no data	no data	no data	no data	no data	no data
	Systemic	no data	no data	no data	no data	no data	no data
Worker	Local	no data	no data	no data	no data	no data	no data
	Systemic	no data	no data	no data	no data	no data	no data

PNEC values		
Compartment	Value	Note(s)
Freshwater	no data	no notes
Marine water	no data	no notes
Freshwater sediment	no data	no notes
Marine water sediment	no data	no notes
Sewage Treatment Plant (STP)	no data	no notes
Intermittent release	no data	no notes
Secondary poisoning	no data	no notes
Soil	no data	no notes

8.2. Exposure controls:

In case of a hazardous material with no controlled concentration limit it is the employer's duty to keep concentration levels down to a minimum achievable by existing scientific and technological means, where the hazardous substance poses no harm to workers.

8.2.1. Appropriate engineering controls:

In pursuance of work is proper foresight needed to avoid spilling onto clothes and floors and to avoid contact with eyes and skin.

8.2.2. Individual protection measures, such as personal protective equipment:

Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Ensure that eyewash stations and safety showers are close to the workstation.

Handle in accordance with good industrial hygiene and safety practice.

Wash hands before breaks and at the end of workday.

Keep product away from foodstuffs and beverages.

Do not eat, drink or smoke when using this product.

Take off contaminated clothing and shoes immediately.

After use: wash hands and apply hand or skin care cream.

Training staff on good practice.

Regular cleaning of equipment.

Minimization of manual phases.

1. **Eye/face protection:** Use appropriate safety glasses with side shields (EN ISO 16321-1:2022; EN 166). In case of dust production: protective goggles. Use equipment for eye protection tested and approved under appropriate government standards.

2. **Skin protection:**

a. **Hand protection:** In case of repeated or prolonged contact, use appropriate protective gloves (EN 374).

Take advice to gloves' supplier. The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425

Good resistance: rubber, butyl rubber, natural rubber, neoprene, nitrile rubber (NBR).

Permeation time: minimum >480 minutes long term exposure.

Material / thickness [mm]: Nitrile rubber (NBR) / 0.11 mm.

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

b. **Other:** Normal working clothes are suitable. Impervious clothing, the type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

3. **Respiratory protection:** Carry operations in the open/under local exhaust/ventilation or with respiratory protection to keep airborne levels below recommended exposure levels. Dust production: dust mask with filter type P2. Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards.

4. **Thermal hazards:** No thermal hazards known.

8.2.3. Environmental exposure controls:

Avoid release to the environment.

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

The requirements detailed in Section 8 assume skilled work under normal conditions and usage of the product for appropriate aims. If conditions differ from normal or work is carried out under extreme conditions, an expert's advice is necessary before deciding upon further protective measures.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties:

Parameter	Value / Test method / Remarks
1. Physical state	metal casing containing solid blocks
2. Colour	metallic
3. Odour, odour threshold	no data*
4. Melting point/freezing point	no data*
5. Boiling point or initial boiling point and boiling range	no data*
6. Flammability	flammable solid
7. Lower and upper explosion limit	no data*
8. Flash point	no data*

9. Auto-ignition temperature	no data*
10. Decomposition temperature	±350 °C decomposition products: aerosols and various gases
11. pH	no data*
12. Kinematic viscosity	no data*
13. Solubility in water in other solvents	no data* no data*
14. Partition coefficient n-octanol/water (log value)	no data*
15. Vapour pressure	no data*
16. Density and/or relative density	±1745 kg/m ³
17. Relative vapour density	no data*
18. Particle characteristics	no data*

9.2. Other information:

9.2.1. Information with regard to physical hazard classes:

No further data available or not applicable for the product.

9.2.2. Other safety characteristics:

When activated, the fire extinguishing aerosol appears with some force out of device as a white cloud.

*: The manufacturer did not carry out any tests on this parameter for the product or the results of the tests are not available at the time of publication of the data sheet, or the property is not applicable for the product.

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity:

Stable under recommended storage conditions (section 7) and in correct usage as prescribed in the Users and Installation Manual of the product.

10.2. Chemical stability:

Stable under recommended storage conditions (section 7) and in correct usage as prescribed in the Users and Installation Manual of the product.

10.3. Possibility of hazardous reactions:

No hazardous reactions known.

10.4. Conditions to avoid:

High humidity (above 95%), temperatures > 50 °C.

10.5. Incompatible materials:

Strong reducing agents, powdered metals, strong acids and bases, combustible materials

10.6. Hazardous decomposition products:

Hazardous decomposition products are formed when device is ignited: carbon dioxide, carbon monoxide, nitrogen monoxide, methane gas, gaseous ammonia, hydrogen cyanide.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008:

Acute toxicity: 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: Based on available data, the classification criteria are not met.

Carcinogenicity: Based on available data, the classification criteria are not met.

Reproductive toxicity: Based on available data, the classification criteria are not met.

STOT-single exposure: Based on available data, the classification criteria are not met.

STOT-repeated exposure: Based on available data, the classification criteria are not met.

Aspiration hazard: Based on available data, the classification criteria are not met.

11.1.1. Summaries of the information derived from the test conducted:

No data available.

11.1.2. Relevant toxicological properties:

No data available.

11.1.3. Information on likely routes of exposure:

Ingestion, inhalation, skin contact, eye contact.

11.1.4. Symptoms related to the physical, chemical and toxicological characteristics:

No data available.

11.1.5. Delayed and immediate effects as well as chronic effects from short and long-term exposure:

No data available.

11.1.6. Interactive effects:

No data available.

11.1.7. Absence of specific data:

No information.

11.2. Information on other hazards:

Endocrine disrupting properties:

Endocrine disrupting property: The mixture does not contain any components considered to have endocrine disrupting properties in accordance with Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1 % or higher.

Other information:

No data available.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity:

Individual components of the content show toxicity to the environment.

12.2. Persistence and degradability:

No data available.

12.3. Bioaccumulative potential:

No data available.

12.4. Mobility in soil:

No data available.

12.5. Results of PBT and vPvB assessment:

This mixture does not contain any components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1 % or higher in accordance with Annex XIII of Regulation 1907/2006/EC.

12.6. Endocrine disrupting properties:

Endocrine disrupting property: The mixture does not contain any components considered to have endocrine disrupting properties in accordance with Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1 % or higher.

12.7. Other adverse effects:

No data available.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods:

Disposal according to the local regulations.

13.1.1. Information regarding the disposal of the product:

Dispose of in accordance with applicable regulations.

Treat product as chemical waste

Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this product.

Waste should not be disposed of by release to sewers.

List of Waste Code:

No waste disposal key according to the List of Waste Code (LoW code) can be determined for this product, as only the purpose of application defined by the user enables an allocation. The LoW code number has to be determined after a discussion with a waste disposal specialist.

13.1.2. Information regarding the disposal of the packaging:

Dispose of in accordance with applicable regulations.

The uncleaned packaging has to be disposed of in the same manner as the product itself.

13.1.3. Physical/chemical properties that may affect waste treatment options shall be specified:

No data available.

13.1.4. Sewage disposal:

No data available.

13.1.5. Special precautions for any recommended waste treatment:

No data available.

SECTION 14: TRANSPORT INFORMATION

- 14.1. **UN number or ID number:**
UN 3268
- 14.2. **UN proper shipping name:**
SAFETY DEVICES, electrically initiated
- 14.3. **Transport hazard class(es):**
9
- 14.4. **Packing group:**
No packing group.
- 14.5. **Environmental hazards:**
See Section 12.
- 14.6. **Special precautions for user:**
The protective measures listed in section 6, 7 and 8 have to be considered.
- 14.7. **Maritime transport in bulk according to IMO instruments:**
Not applicable.

SECTION 15: REGULATORY INFORMATION

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

REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive (EC) No 1999/45 and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive (EEC) No 76/769 and Commission Directives (EEC) No 91/155, (EEC) No 93/67, (EC) No 93/105 and (EC) No 2000/21

REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives (EEC) No 67/548 and (EC) No 1999/45, and amending Regulation (EC) No 1907/2006

COMMISSION REGULATION (EU) 2020/878 of 18 June 2020 amending Annex II to Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

The mixture does not contain ≥ 0.1 % of substances on the candidate list for authorisation of substances of very high concern (SVHC) under **Regulation (EC) No 1907/2006 (REACH)**.

The mixture contains a substance that is subject to **Regulation (EU) 2019/1148** on the marketing and use of explosives precursors: ANNEX II – REPORTABLE EXPLOSIVES PRECURSORS

List of substances on their own or in mixtures or in substances for which suspicious transactions and significant disappearances and thefts are to be reported within 24 hours:
Potassium nitrate (CAS: 7757-79-1)

- 15.2. **Chemical safety assessment:** No information.

SECTION 16: OTHER INFORMATION

Information regarding the revision of the safety data sheet: No information.

Literature references / data sources:

Safety data sheet issued by the downstream user (23. 02. 2024 version 1, NL)

Methods used for the classification according to Regulation (EC) No 1272/2008:

Classification	Method
Flammable solids, Hazard Category 1 – H228	Expert judgment, classified by the manufacturer

Relevant hazard statements (code and full text) of Sections 2 and 3:

H228 – Flammable solid.
H272 – May intensify fire; oxidiser.
H315 – Causes skin irritation.
H317 – May cause an allergic skin reaction.
H319 – Causes serious eye irritation.
H335 – May cause respiratory irritation.
H411 – Toxic to aquatic life with long lasting effects.

Training advice: Before using/handling the product one must read carefully the MSDS and the User & Installation Manual. Preferably qualified personnel is allowed to work with aerosol fire extinguishing devices.

Full text of the abbreviations in the safety data sheet:

ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.
ADR: Agreement concerning the International Carriage of Dangerous Goods by Road.
ATE: Acute Toxicity Estimate.
AOX: Adsorbable organic halides.
BCF: Bioconcentration factor.
BOD: Biological Oxygen Demand.
CAS number: Chemical Abstract Service number.
CLP: Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures.
CMR effects: Carcinogenic, mutagenic, reprotoxic effects.
COD: Chemical Oxygen Demand.
CSA: Chemical Safety Assessment.
CSR: Chemical Safety Report.
DNEL: Derived-No-Effect-Level.
ECHA: European Chemical Agency.
EC: European Community.
EC number: EINECS and ELINCS numbers (see also EINECS and ELINCS).
EEC: European Economic Community.
EEA: European Economic Area (EU + Iceland, Liechtenstein and Norway).
EINECS: European Inventory of Existing Commercial Chemical Substances.
ELINCS: European List of Notified Chemical Substances.
EN: European Norm.
EU: European Union.
EuPCS: European Product Categorisation System.
EWC: European Waste Catalogue (replaced by LoW – see below).
GHS: Globally Harmonized System of Classification and Labelling of Chemicals.
IATA: International Air Transport Association.
ICAO-TI: Technical Instructions for the Safe Transport of Dangerous Goods by Air.
IMDG: International Maritime Dangerous Goods.
IMO: International Maritime Organization.
IMSBC: International Maritime Solid Bulk Cargoes.
IUCLID: International Uniform Chemical Information Database.
IUPAC: International Union of Pure and Applied Chemistry.
Kow: n-Octanol - Water Partition Coefficient.
LC₅₀: Lethal concentration resulting in 50 % mortality.
LD₅₀: Lethal dose resulting in 50 % mortality (median lethal dose).
LoW: List of Waste.
LOEC: Lowest Observed Effect Concentration.
LOEL: Lowest Observed Effect Level.
NOEC: No Observed Effect Concentration.
NOEL: No Observed Effect Level.
NOAEC: No Observed Adverse Effect Concentration.
NOAEL: No Observed Adverse Effect Level.
OECD: Organization for Economic Cooperation and Development.
OSHA: Occupational Safety and Health Administration.
PBT: Persistent, Bioaccumulative and Toxic.
PNEC: Predicted No Effect Concentration.
QSAR: Quantitative Structure Activity Relationship.
REACH: Regulation 1907/2006/EC concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals.
RID: Regulations Concerning the International Transport of Dangerous Goods by Rail.
SCBA: Self Contained Breathing Apparatus.

SDS: Safety Data Sheet.

STOT: Specific Target Organ Toxicity.

SVHC: Substances of Very High Concern.

UN: United Nations.

UVCB: Chemical Substances of Unknown or Variable Composition, Complex Reaction Products and Biological Materials.

VOC: Volatile Organic Compound.

vPvB: very Persistent and very Bioaccumulative.

This safety data sheet had been prepared on the basis of information provided by the manufacturer/supplier and conform to the relevant regulations.

The information, data and recommendations contained herein are provided in good faith, obtained from reliable sources and believed to be true and accurate as of the date issued; however, no representation is made as to the comprehensiveness of the information.

The SDS shall be used only as a guide for handling the product; in the course of handling and using the product other considerations may arise or be required.

Users are cautioned to determine the appropriateness and applicability of the above information to their particular circumstances and purposes and assume all risk associated with the use of this product.

It is the responsibility of the user to fully comply with local, national and international regulations concerning the use of this product.

Safety data sheet was prepared by:
MSDS-Europe
International branch of ToxInfo Kft.

Professional help regarding the explanation of
the safety data sheet:
+36 70 335 8480; info@msds-europe.com
www.msds-europe.com

