

# MATERIAL SAFETY DATA SHEET

ACCORDING 453/2010/EC

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Revision 1

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## NAME: FLAME FLUID RED

### 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

#### 1.1. PRODUCT IDENTIFIER

Chemical description : ETH96-99,8% (5% WOOD SPIRIT)  
Type of product : Mixture.  
Reach registration number : -

#### 1.2. RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST

Identified use(s) : Fire Fluid  
Use(s) advised against : Non identified .

#### 1.3. DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

##### Company identification :

Magic FX BV  
Schouwrooij 27  
NL-5281 RE Boxtel  
Tel: +31 (0)411-635013  
Fax: +31 (0)411-635012  
E-mail: [info@magicfx.eu](mailto:info@magicfx.eu)  
<http://www.magicfx.eu>

#### 1.4. EMERGENCY TELEPHONE NUMBER

Emergency phone number : België : Antipoison Center – Brussels  
TEL: +32(0)70/245.245

The Netherlands : National Poisoning Information Center - Bilthoven  
TEL: +31(0)30/274.88.88 (Only for the purpose of informing medical personnel in cases of acute intoxications)

## 2. HAZARDS IDENTIFICATION

### 2.1. CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

Classification according to Directive 67/548/EEC or 1999/45/EC

Highly flammable (F; R11)

Classification according to Regulation (EC) No 1272/2008

Flammable liquids - Category 2 - Danger (Flam. Liq. 2; H225)

Eye irritation - Category 2 - Warning (Eye Irrit. 2; H319)

### 2.2. LABEL ELEMENTS

Label in accordance with Regulation (EC) No 1272/2008

• Dangerous ingredient(s) : Ethanol .



• Hazard pictogram(s)

• Signal word :

Danger

• Hazard statements :

H225 - Highly flammable liquid and vapour. H319 - Causes serious eye irritation.

• Precautionary statements

Prevention :

P210 - Keep away from heat, sparks, open flames or hot surfaces. – No smoking.  
P233 - Keep container tightly closed. P243 - Take precautionary measures against static discharge.

Response :

P303+P361+P353 - IF ON SKIN (or hair) : Remove 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. P337+P313 - If eye irritation persists : Get medical advice.

Storage :

P403+P235 - Store in well-ventilated place. Keep cool.

### 2.3. OTHER HAZARDS

Physical/chemical hazards :

Ethanol : Vapours may be heavier than air, spread along the ground and collect in low or confined areas.

Hazards for the health :

Ethanol : A health dangerous concentration in the air will very quickly be reached by evaporation of this substance at app. 20°C; even faster by spraying.

Hazards for the environment :

No significant danger. This product is no substance or contains no PBT or vPvB (in accordance with Annex XIII).

Hazards for the safety :

Ethanol : Vapor mixes readily with air forming explosive mixtures.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### 3.2. MIXTURES

##### HARMFUL COMPONENT(S)

Name component(s)	Weight %	CAS nr	EINECS nr	Index nr	Reach-nr	Classification
Ethanol :	> 50 %	64-17-5	200-578-6	603-002-00-5	01-2119457610-43	F; R11 Flam. Liq. 2; H225 Eye Irrit. 2; H319
Methanol :	< 3 %	67-56-1	200-659-6	603-001-00-X	01-2119433307-44	F; R11 T; R23/24/ 25-39/23/24/25 Flam. Liq. 2; H225 Acute Tox. 3 (oral); H301 Acute Tox. 3 (skin); H311 Acute Tox. 3 (inhal); H331 STOT SE 1; H370

The full text of the R-phrases and (EU)H-statements is in section 16.

Methanol : Note: SCL applicable

### 4. FIRST AID MEASURES

#### 4.1. DESCRIPTION OF FIRST AID MEASURES

General :	In case of doubt or persistent symptoms, call a physician. Never give anything by mouth to an unconscious person.
First Aid Measures	
Inhalation :	Allow the affected person to rest. Remove victim into fresh air. If not breathing, give artificial respiration. Consult a doctor.
Skin Contact :	Remove contaminated clothing. Rinse skin immediately with plenty of water. (shower if necessary). Consult doctor if irritation develops.
Eye Contact :	Rinse immediately thoroughly and long (at least 15 min.) with plenty of water. Remove contact lenses. Consult eye doctor.
Ingestion :	DO NOT INDUCE VOMITING. Rinse mouth with water. Seek medical advice.

#### 4.2. MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

See section 11.

#### 4.3. INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

For specialist advice doctors should contact the NVCI or the Belgian Poison center.

## 5. FIREFIGHTING MEASURES

### 5.1. EXTINGUISHING MEDIA

Extinguishing Media

Suitable :

Insuitable :

Extinguishing powder , Alcohol resistant foam , Carbon dioxide (CO<sub>2</sub>) , Water spray.  
Heavy water stream Foam ( alcohol not resistant )

### 5.2. SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

Special Exposure Hazards :

Fire may liberate carbon oxides (CO) and smoke.

### 5.3. ADVICE FOR FIREFIGHTERS

Special Protective Equipment for :

Use self-contained breathing apparatus and wear protective clothes when in close Firefighters proximity to fire.

Special Procedures :

Apply water spray or fog to cool nearby equipment. Avoid fire-fighting water to enter environment.

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1. PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Personal Precautions :

Eliminate every possible source of ignition (open fire, sparks, smoking, ...).  
Evacuate all personnel immediately and ventilate area.  
Avoid breathing vapour and contact with skin, eyes and clothing. Wear recommended personal protective equipment. (See section 8)

### 6.2. ENVIRONMENTAL PRECAUTIONS

Environmental Precautions :

Shut off leaks if without risks.  
Dike in the spilled product as much as possible with inert material.  
Prevent entry of product in public water, sewers or soil.  
Notify authorities if product enters sewers or public waters.

### 6.3. METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP

Methods for Cleaning Up :

Collect the spillage in closable, suitable disposal containers.  
Clean up any spills as soon as possible, using an inert absorbent material.  
Residue is to be washed down with plenty of water.  
Drain off rinsing water into sewers.

### 6.4. REFERENCE TO OTHER SECTIONS

For personal protection, see section 8.  
For the removal of the waste product, see section 13.

## 7. HANDLING AND STORAGE

### 7.1. PRECAUTIONS FOR SAFE HANDLING

Handling : Avoid breathing vapour and contact with skin, eyes and clothing. Wear recommended personal protective equipment. (See section 8)  
Wash hands before and after working with the product.  
When using, do not eat, drink or smoke.  
Emergency eye wash fountains and showers should be available in the immediate vicinity of any potential exposure.

### 7.2. CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

Storage : Keep only in the original, safely locked container in a cool, well ventilated and fireproof place.  
All dangerous products should be placed on a drip tray or should be barreled.  
Store away from all heat sources, including direct sunlight.  
Keep away from : Oxidizing agents , Strong acids .

Protection against Fire and Explosion : Remove all sources of ignition (open fire, sparks, smoking, ...).  
With a temperature equal to or higher than the flash point, the mixture steam-air may create a highly flammable and explosive mixture.  
Do not use compressed air to either agitate or transfer contents of storage containers (tanks) / shipping drums containing this material.

Always use explosionproof electrical equipment.  
Use spark-arm implement.  
Stainless steel , Glass .

Packaging Material :

Insuitable Packaging Material : Synthetic material , Aluminium .

### 7.3. SPECIFIC END USE(S)

For identified uses, see subsection 1.2 and/or exposure scenarios.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1. CONTROL PARAMETERS

Occupational Exposure Limits : For harmful components:  
Ethanol : Limit value (BE) : 1000 ppm (1907 mg/m<sup>3</sup>) (2011)  
Ethanol : Limit value (TWA 8 h) (NL) : 200 ppm (260 mg/m<sup>3</sup>) (2008) (H)  
Ethanol : Limit value (TWA 15 min) (NL) : 1000 ppm (1900 mg/m<sup>3</sup>) (2008) (H)  
Methanol : Limit value (BE) : 200 ppm (266 mg/m<sup>3</sup>) (2011) (D)  
Methanol : Short time value (BE) : 250 ppm (333 mg/m<sup>3</sup>) (2011) (D)  
Methanol : Limit value (TWA 8 h) (NL) : 100 ppm (133 mg/m<sup>3</sup>) (2011) (H)  
(D) The mention "D" means that the absorption of the agent by skin, mucous membranes or eyes constitutes an important part of the total exposition. This absorption can be the consequence of direct contact as well as his presence in the air.  
(H) The addition of an "H" indicates that the substance is relative easily absorbed by the skin.

Biological limit values : They will be included when available.

DNELs : For harmful components:  
• Ethanol : Worker, acute - local effects, inhalation : 1900 mg/m<sup>3</sup>  
• Ethanol : Worker, long-term - systemic effects, inhalation : 950 mg/m<sup>3</sup>

- Ethanol : Worker, long-term - systemic effects, dermal : 343 mg/kg/ day
- Ethanol : Consumer, acute - local effects, inhalation : 950 mg/m<sup>3</sup>
- Ethanol : Consumer, long-term - systemic effects, inhalation : 114 mg/m<sup>3</sup>
- Ethanol : Consumer, long-term - systemic effects, dermal : 206 mg/kg/ day
- Ethanol : Consumer, long-term - systemic effects, oral : 87 mg/kg/ day
- Methanol : Worker, acute - local effects, inhalation : 260 mg/m<sup>3</sup>
- Methanol : Worker, acute - systemic effects, dermal : 40 mg/kg bw/ day
- Methanol : Worker, acute - systemic effects, inhalation : 260 mg/m<sup>3</sup>
- Methanol : Worker, long-term - local effects, inhalation : 260 mg/m<sup>3</sup>
- Methanol : Worker, long-term - systemic effects, dermal : 40 mg/kg bw/ day
- Methanol : Worker, long-term - systemic effects, inhalation : 260 mg/m<sup>3</sup>
- Methanol : Consumer, acute - local effects, inhalation : 50 mg/m<sup>3</sup>
- Methanol : Consumer, acute - systemic effects, dermal : 8 mg/kg bw/ day
- Methanol : Consumer, acute - systemic effects, oral : 8 mg/kg bw/ day
- Methanol : Consumer, acute - systemic effects, inhalation : 50 mg/m<sup>3</sup>
- Methanol : Consumer, long-term - systemic effects, dermal : 8 mg/kg bw/ day
- Methanol : Consumer, long-term - systemic effects, oral : 8 mg/kg bw/ day
- Methanol : Consumer, long-term - local effects, inhalation : 50 mg/m<sup>3</sup>
- Methanol : Consumer, long-term - systemic effects, inhalation : 50 mg/m<sup>3</sup>

PNECs :

For harmful components:

- Ethanol : Fresh water : 0,96 mg/l
- Ethanol : Marine water : 0,79 mg/l
- Ethanol : Fresh water sediment : 3,6 mg/kg
- Ethanol : Soil : 0,63 mg/kg
- Methanol : Fresh water : 154 mg/l
- Methanol : Marine water : 15,4 mg/l
- Methanol : Marine water sediment : 570,4 mg/kg
- Methanol : Soil : 23,5 mg/kg
- Methanol : Intermittent release : 1540 mg/l
- Methanol : Sewage treatment plant : 100 mg/l

## 8.2. EXPOSURE CONTROLS

Engineering Measures :

Ventilation , Local exhaust .

Personal Protection Equipment

Respiratory protection :

CE-approved mask for organic vapours and solvents (type A, brown).

Skin protection :

Suitable protective clothing .

Hand protection :

Suitable material for safety gloves (EN 374):

As the product is a mixture of several substances, the durability of the glove materials can't be calculated in advance and has to be tested before use.

material : Butyl rubber - thickness 0,7 mm – breakthrough time 480'

Eye/Face protection :

Closed safety glasses or face shield.

Environmental exposure controls :

See sections 6, 7, 12 and 13.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

Physical State (20°C) :	Liquid .
Form/Colour :	Colourless .
Odour :	Odour of alcohol.
Odour threshold :	177 - 188 mg/m <sup>3</sup> ( Ethanol )
pH value :	5,3 ( Ethanol )
Melting/Freezing point :	-114 °C ( Ethanol )
Boiling Point/Range (1013 hPa) :	78 °C ( Ethanol )
Flash point (CC) :	app. 12 °C
Fire hazard :	P1
Evaporation rate :	> 8 ( Ether = 1 )
Explosion limits in air :	3,4 - 19 vol.%
Vapour pressure (20°C) :	5,85 kPa
Density (20°C) :	0,8049 - 0,8074 kg/l
Solubility in water :	Complete solubility
Soluble in :	Solvents .
Log P Octanol/Water (20°C) :	-0,35 ( Ethanol )
Auto-ignition temperature :	> 350 °C
Minimum ignition energy :	0,4 mJ ( Ethanol )
Decomposition temperature :	> 700 °C
Viscosity (20°C) :	1,2 mPa.s ( Ethanol )
Explosive properties :	No chemical groups associated with explosive properties .
Oxidizing properties :	No chemical groups associated with oxidizing properties .

**9.2. Other information**

% Volatiles (by weight) :	> 99
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## 10. STABILITY AND REACTIVITY

### 10.1. REACTIVITY

Reactivity : Reacts violently with oxidizing agents and strong acids.

### 10.2. CHEMICAL STABILITY

Stability : Stable at normal circumstances .

### 10.3. POSSIBILITY OF HAZARDOUS REACTIONS

Hazardous reactions : Exothermic reaction .

### 10.4. CONDITIONS TO AVOID

Conditions to avoid : High temperatures .

### 10.5. INCOMPATIBLE MATERIALS

Materials to avoid : Oxidizing agents , Strong acids .

## 10.6. HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products : Carbon oxides .

# 11. TOXICOLOGICAL INFORMATION

## 11.1. INFORMATION ON TOXICOLOGICAL EFFECTS

### Acute toxicity

- Inhalation : For harmful components:  
• Ethanol : LC50 (Rat, inhalation, 4 h) : 51-124,7 mg/l  
• Methanol : LC50 (Rat, inhalation, 4 h) : 83-130 mg/l
- Skin contact : For harmful components:  
• Ethanol : LD50 (Rabbit, dermal) : >2000 mg/kg  
• Methanol : LD50 (Rabbit, dermal) : 15800-17100 mg/kg
- Ingestion : For harmful components:  
• Ethanol : LD50 (Rat, oral) : 10470 mg/kg  
• Methanol : LD50 (Rat, oral) : 1187-5628 mg/kg

- Skin corrosion/irritation : Not irritating for the skin.  
Serious eye damage/irritation : Causes serious eye irritation.  
Aspiration hazard : Not considered hazardous.

- Respiratory or skin sensitisation : Not sensitive .  
Carcinogenicity : Not listed as carcinogenic .  
The Netherlands : Ethanol , is included in the SZW-list (a)

- Mutagenicity : Not listed as mutagenic .  
Reproductive toxicity : Not listed for reproductive toxicity . Ethanol ,  
The Netherlands : Methanol is included in the SZW-list (b)

- Specific target organ toxicity - single exposure : To human : Listed not for organ toxicity .  
For animals : No effects known.

- Specific target organ toxicity - repeated exposure : To human : Listed not for organ toxicity .  
For animals : No effects known.

# 12. ECOLOGICAL INFORMATION

## 12.1. TOXICITY

- Ecotoxicity : For harmful components:  
• Ethanol : EC50 (Daphnia magna, 48 h) : 12340 mg/l  
• Ethanol : EC50 (Algae, 72 h) : 275 mg/l (Chlorella vulgaris)  
• Ethanol : LC50 (Fish, 96 h) : 13000 mg/l (Oncorhynchus)  
• Methanol : LC50 (Fish, 96 h) : 15400 mg/l (Lepomis macrochirus)  
• Methanol : EC50 (Algae, 96 h) : 22000 mg/l (Selenastrum • Methanol : EC50 (Daphnia magna, 48 h) : >10000 mg/

## 12.2. PERSISTENCE AND DEGRADABILITY

- Persistence and degradability : For harmful components :  
• Ethanol : Persistence and degradability : Readily biodegradable  
• Methanol : Persistence and degradability : Readily biodegradable

### 12.3. BIOACCUMULATIVE POTENTIAL

Bioaccumulation :

For harmful components: .

- Ethanol : Bioaccumulation : Bioaccumulation not expected
- Methanol : Bioaccumulation : Bioaccumulation not expected

### 12.4. MOBILITY IN SOIL

Mobility :

For harmful components:

- Ethanol : Mobility : No data available .
- Methanol : Mobility : Completely soluble in water.

### 12.5. RESULTS OF PBT AND VPVB ASSESSMENT

Evaluation :

- Ethanol : PBT/vPvB : No
- Methanol : PBT/vPvB : No

For harmful components:

- Ethanol : PBT/vPvB : No
- Methanol : PBT/vPvB : No

### 12.6. OTHER ADVERSE EFFECTS

WGK class (DE) :

No data available for the mixture.

Water damaging (NL) :

No data available for the mixture.

Decontamination exertion (NL) :

No data available for the mixture.

Photochemical ozone creation potential: No data available for the mixture.

Ozone depletion potential :

No data available for the mixture.

Endocrine disrupting potential :

No data available for the mixture.

Global warming potential :

No data available for the mixture.

## 13. DISPOSAL CONSIDERATIONS

### 13.1. WASTE TREATMENT METHODS

Waste from residues/Unused products : The product has to be destroyed according to national or local legislation, by a company specialised in handling hazardous waste products.

European list of waste products :

XXXXXX - European waste product code. This code is assigned on the basis of the most current applications and can not be representative for pollutions which are arisen at the effective use of the product. The producer of the waste has to evaluate its process himself and has to grant the appropriate waste coding. See Decision 2001/118/EC.

Removal contaminated packaging :

Packing is to be used exclusively for the packing of this product.

After use, empty and close the packing very carefully.

In case of returned packing, the empty packing can be offered back to the supplier.

## 14. TRANSPORT INFORMATION

### 14.1. UN-NUMBER

UN-number: 1993

### 14.2. UN PROPER SHIPPING NAME

ADR Name : UN 1993 Flammable liquid, n.o.s., (contains Ethanol and Methanol), 3, II, D/E),SP640D  
ADN Name : UN 1993 Flammable liquid, n.o.s. , ( contains Ethanol and Methanol ), 3, II  
IMDG Name : UN 1993 Flammable liquid, n.o.s. , (contains Ethanol and Methanol), 3, II, (12°C)

### 14.3. TRANSPORT HAZARD CLASSE(S)

Class : 3

### 14.4. PACKING GROUP

Packaging Group : II

### 14.5. ENVIRONMENTAL HAZARDS

Environmentally hazard : No  
Marine pollutant : No

### 14.6. Special precautions for user

Danger number : 33  
Hazard label(s):  3  
EmS-N° : F-E , S-E

### 14.7. TRANSPORT IN BULK ACCORDING TO ANNEX II OF MARPOL 73/78 AND THE IBC CODE

Type ship : No data available for the mixture.  
Pollution category : No data available for the mixture.

## 15. REGULATORY INFORMATION

### 15.1. SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/LEGISLATION SPECIFIC FOR THE SUBSTANCE OR MIXTURE

Relevant EU Rule(s) : Directive 96/82/EC of the Council of 9 December 1996 on the control of majoraccident hazards involving dangerous substances  
Directive 1999/13/EC of the Council of 11 March 1999 on the limitation of emissions of volatile organic compounds due to the use of organic solvents in certain activities and installations  
Decision 2001/118/EC of the Commission of 16 January 2001 amending Decision 2000/532/EC as regards the list of wastes  
Directive 2004/37/EC of the European Parliament and of the Council of 29 April 2004 on the protection of workers from the risks related to exposure to carcinogens or mutagens at work  
Directive 2004/42/CE of the European Parliament and of the Council of 21 April 2004 on the limitation of emissions of volatile organic compounds due to the use of organic solvents in certain paints and varnishes and vehicle refinishing products and amending Directive 1999/13/EC  
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 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006

Regulation (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (Reach)

## 15.2. CHEMICAL SAFETY ASSESSMENT

A chemical safety assessment has been carried out for the substance(s) that make up this material or for the material itself.

## 16. OTHERS

This safety data sheet has been drawn up in accordance with Regulation (EU) No 453/2010.  
This safety data sheet is exclusively made for industrial/professional use.

Has changed compared to previous revision.

Changes : General revision .

Sources of used key data : The information contained herein is based on the present state of our knowledge ( Producer(s) , Chemical cards , ...).  
See also on the webaddress:  
<http://apps.echa.europa.eu/registered/registered-sub.aspx#search>  
See also on the webaddress:  
<http://apps.echa.europa.eu/registered/registered-sub.aspx#search>

R-phrase(s) : R11 - Highly flammable.  
R23/24/25 - Toxic by inhalation, in contact with skin and if swallowed.  
R39/23/24/25 - Toxic : danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.

(EU)H-statement(s) : H225 - Highly flammable liquid and vapour.  
H301 - Toxic if swallowed.  
H311 - Toxic in contact with skin.  
H319 - Causes serious eye irritation.  
H331 - Toxic if inhaled.  
H370 - Causes damage to organ.  
H225 - Highly flammable liquid and vapour.  
H301 - Toxic if swallowed.  
H311 - Toxic in contact with skin.  
H319 - Causes serious eye irritation.  
H331 - Toxic if inhaled.  
H370 - Causes damage to organ.

List of abbreviations and acronyms : ADN (Accord européen relatif au transport international des marchandises Dangereuses par voie de Navigation interieur) : European agreement concerning the international carriage of dangerous goods by inland waterways  
ADR (Accord européen relatif au transport international des marchandises Dangereuses par Route) : European agreement concerning the international carriage of dangerous goods by road  
CO : Carbon monoxide  
DNEL (Derived No Effect Level) : an estimated safe exposure level  
EmS (Emergency Schedule) : the first code refers to the relevant fire schedule and the second code refers to the relevant spillage schedule  
IMDG (International Maritime Dangerous Goods code)  
NVCI : National Poisoning Information Center  
PBT : persistent, bioaccumulative and toxic  
PNEC (Predicted No Effect Concentration) : concentration below which exposure to a substance is not expected to cause adverse effects  
REACH : Registration, Evaluation, Authorisation and restriction of Chemicals  
SZW-list : List of carcinogenic substances and processes as referred to in Article 4. 11 of the Working conditions decree (a)  
SZW-list : Non-limitative list of reproduction toxic substances to which the additional registration obligation applies as referred to in Article 4.2a, second

paragraph of the Working conditions decree (b)  
TWA (Time-Weighted Average) : the average exposure over a specified period  
vPvB : very persistent and very bioaccumulative  
WGK (Wassergefährdungsklasse) : a German classification of substances that indicate the environmental hazard for surface water  
ACGIH : American Conference of Governmental Industrial Hygienists

ADN (Accord européen relatif au transport international des marchandises Dangereuses par voie de Navigation interieur) : European agreement concerning the international carriage of dangerous goods by inland waterways  
ADR (Accord européen relatif au transport international des marchandises Dangereuses par Route) : European agreement concerning the international carriage of dangerous goods by road  
CO : Carbon monoxide  
DNEL (Derived No Effect Level) : an estimated safe exposure level  
EmS (Emergency Schedule) : the first code refers to the relevant fire schedule and the second code refers to the relevant spillage schedule  
IARC (International Agency for Research on Cancer)  
IMDG (International Maritime Dangerous Goods code)  
Candidate list: List of substances of very high concern (SVHC) for authorisation.  
M-Factor : a multiplying factor that is applied to the concentration of a substance classified as hazardous to the aquatic environment (Aquatic Acute 1; H400 or Aquatic Chronic 1; H410) and is used to derive by the summation method the classification of a mixture in which the substance is present  
NFPA (National Fire Protection Association) or fire diamant  
NOEC (No Observed Effect Concentration)  
NOx : Nitrogen oxides  
NVCI : National Poisoning Information Center  
OECD : Organisation for Economic Cooperation and Development  
LEL : Low Explosive Limit  
PBT : persistent, bioaccumulative and toxic  
PNEC (Predicted No Effect Concentration) : concentration below which exposure to a substance is not expected to cause adverse effects  
REACH : Registration, Evaluation, Authorisation and restriction of Chemicals  
SCL (Specific Concentration Limits)  
SVHC (Substance of Very High Concern)  
SZW-list : List of carcinogenic substances and processes as referred to in Article 4.11 of the Working conditions decree  
SZW-list : List with mutagenic substances as referred to in Article 4.11 of the Working conditions decree  
SZW-list : Non-limitative list of reproduction toxic substances to which the additional registration obligation applies as referred to in Article 4.2a, second paragraph of the Working conditions decree  
TWA (Time-Weighted Average) : the average exposure over a specified period  
UVCB : substances of Unknown or Variable composition, Complex reaction products or Biological materials  
vPvB : very persistent and very bioaccumulative  
WGK (Wassergefährdungsklasse) : a German classification of substances that indicate the environmental hazard for surface water  
Black list : List I of Directive 76/464/EEC contains substances which belong to families and groups of substances, selected mainly on the basis of their toxicity, persistence and bioaccumulation, with the exception of those which are biologically harmless or which are rapidly converted into substances which are biologically harmless

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This information is to our knowledge correct and complete on the date of issue of this safety data sheet. The information only concerns the product and does not give any guarantee for the quality and the completeness of the properties of the product, or in case of mixing or using in any other process. It remains the responsibility of the user to assure himself that the information is suitable and complete concerning the special use he makes of the product.  
Magic FX BV denies all responsibility for loss or damage resulting from the use of these data.

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**Department issuing MSDS: QHSE Department**  
**Contact: Mr.**