

Safety data sheet according to Regulation (EC) No 1907/2006, Annex II

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

1.1 Product identifier

Fuel Cartridge - M5, M10, M28

Methanol
Registration number (ECHA): 01-2119433307-44-XXXX
Index: 603-001-00-X
EINECS, ELINCS, NLP: 200-659-6
CAS: 67-56-1

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

Relevant identified uses of the substance or mixture:

Fuel Cell

Uses advised against:

No information available at present.

1.3 Details of the supplier of the safety data sheet

GB

SFC Energy AG, Eugen-Sänger-Ring 7, 85649 Brunnthal, Germany
Phone:+49 (0)89 673-592-0, Fax:+49 (0)89 673-592-369
info@sfc.com

Qualified person's e-mail address: info@chemical-check.de, k.schnurbusch@chemical-check.de Please DO NOT use for requesting Safety Data Sheets.

1.4 Emergency telephone number

Emergency information services / official advisory body:

GB

+49 89 19240 (D-81675 Munich, 24 hour)

Telephone number of the company in case of emergencies:

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) 1272/2008 (CLP)

Hazard class	Hazard category	Hazard statement
Flam. Liq.	2	H225-Highly flammable liquid and vapour.
Acute Tox.	3	H331-Toxic if inhaled.
Acute Tox.	3	H311-Toxic in contact with skin.
STOT SE	1	H370-Causes damage to organs.
Acute Tox.	3	H301-Toxic if swallowed.

2.2 Label elements

Labeling according to Regulation (EC) 1272/2008 (CLP)

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 CAS: 67-56-1, Index:603-001-00-X EC: 200-659-6

Danger

H225-Highly flammable liquid and vapour. H331-Toxic if inhaled. H311-Toxic in contact with skin. H370-Causes damage to organs. H301-Toxic if swallowed.

P101-If medical advice is needed, have product container or label at hand. P102-Keep out of reach of children.
 P210-Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P260-Do not breathe vapours or spray. P264-Wash hands thoroughly after handling. P270-Do not eat, drink or smoke when using this product. P280-Wear protective gloves / protective clothing.
 P301+P310-IF SWALLOWED: Immediately call a POISON CENTER / doctor. P330-Rinse mouth.
 P405-Store locked up.
 P501-Dispose of contents / container to special waste collection point.

2.3 Other hazards

No vPvB substance
 No PBT substance

SECTION 3: Composition/information on ingredients

3.1 Substance

Methanol	Substance for which an EU exposure limit value applies.
Registration number (REACH)	01-2119433307-44-XXXX
Index	603-001-00-X
EINECS, ELINCS, NLP	200-659-6
CAS	67-56-1
content %	
Classification according to Regulation (EC) 1272/2008 (CLP)	Flam. Liq. 2, H225 Acute Tox. 3, H331 Acute Tox. 3, H311 Acute Tox. 3, H301 STOT SE 1, H370

3.2 Mixture

n.a.

For the text of the H-phrases and classification codes (GHS/CLP), see Section 16.
 The substances named in this section are given with their actual, appropriate classification!
 For substances that are listed in appendix VI, table 3.1 of the regulation (EC) no. 1272/2008 (CLP regulation) this means that all notes that may be given here for the named classification have been taken into account.

SECTION 4: First aid measures

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4.1 Description of first aid measures

Medical supervision necessary due to possibility of delayed reaction.

First-aiders should ensure they are protected!

Never pour anything into the mouth of an unconscious person!

Inhalation

Remove person from danger area.

Supply person with fresh air. Call doctor immediately.

If the person is unconscious, place in a stable side position and consult a doctor.

Skin contact

Remove polluted, soaked clothing immediately, wash thoroughly with plenty of water and soap. Call a doctor immediately, keep datasheet at hand

Eye contact

Remove contact lenses.

Wash thoroughly for several minutes using copious water. Seek medical help if necessary.

Ingestion

Rinse the mouth thoroughly with water.

Give copious water to drink - consult doctor immediately.

Induce vomiting.

Allow drinking approx. 100 ml approx. 40% ethanol in esculent.

4.2 Most important symptoms and effects, both acute and delayed

If applicable delayed symptoms and effects can be found in section 11 and the absorption route in section 4.1.

In certain cases, the symptoms of poisoning may only appear after an extended period / after several hours.

The following may occur:

After resorption:

Nausea

Vomiting

Headaches

Dizziness

Danger of blindness

Acidosis

Drop in blood pressure

Cramps

Narcotic effect.

Coma

Liver and kidney damage

Disturbed heart rhythm

4.3 Indication of any immediate medical attention and special treatment needed

n.c.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Unsuitable extinguishing media

High volume water jet

5.2 Special hazards arising from the substance or mixture

In case of fire the following can develop:

Oxides of carbon

Toxic gases

Explosive vapour/air or gas/air mixtures.

Dangerous vapours heavier than air.

In case of spreading near the ground, flashback to distance sources of ignition is possible.

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes.

Protective respirator with independent air supply.

Full protection

Water jet spray / alcohol resistant foam / CO2 / dry extinguisher

Cool container at risk with water.

Dispose of contaminated extinction water according to official regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Ensure sufficient supply of air.

Avoid inhalation, and contact with eyes or skin.

Remove possible causes of ignition - do not smoke.

Take measures against electrostatic charging, if appropriate.

If applicable, caution - risk of slipping.

6.2 Environmental precautions

If leakage occurs, dam up.

Resolve leaks if this possible without risk.

Prevent surface and ground-water infiltration, as well as ground penetration.

Prevent from entering drainage system.

If accidental entry into drainage system occurs, inform responsible authorities.

Danger of explosion

6.3 Methods and material for containment and cleaning up

Soak up with absorbent material (e.g. universal binding agent, sand, diatomaceous earth) and dispose of according to Section 13.

Use no flammable substances.

Flush residue using copious water.

Fill the absorbed material into lockable containers.

6.4 Reference to other sections

For personal protective equipment see Section 8 and for disposal instructions see Section 13.

SECTION 7: Handling and storage

In addition to information given in this section, relevant information can also be found in section 8 and 6.1.

7.1 Precautions for safe handling

7.1.1 General recommendations

Ensure good ventilation.

Avoid inhalation of the vapours.

If applicable, suction measures at the workstation or on the processing machine necessary.

Avoid contact with eyes or skin.

Keep away from sources of ignition - Do not smoke.

Take precautions against electrostatic charges.

Take explosion-prevention measures if applicable.

Use explosion-proof equipment.

Earth devices.

Do not use on hot surfaces.

Also seal emptied tanks and tanks in the process after they have been used.

Eating, drinking, smoking, as well as food-storage, is prohibited in work-room.

Observe directions on label and instructions for use.

Use working methods according to operating instructions.

7.1.2 Notes on general hygiene measures at the workplace

General hygiene measures for the handling of chemicals are applicable.

Wash hands before breaks and at end of work.

Keep away from food, drink and animal feedingstuffs.

Remove contaminated clothing and protective equipment before entering areas in which food is consumed.

7.2 Conditions for safe storage, including any incompatibilities

Keep locked away.

Keep out of access to unauthorised individuals.

Store product closed and only in original packing.

Not to be stored in gangways or stair wells.

Solvent resistant floor

Do not store with flammable or self-igniting materials.

Do not store with oxidizing agents.

Protect against moisture and store closed.

Store in a well ventilated place.

Protect from direct sunlight and warming.

Observe special storage conditions.

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Store cool.
 Unsuitable material:
 Various plastics
 Magnesium
 Zinc alloys

7.3 Specific end use(s)

No information available at present.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Chemical Name	Methanol	Content %:
WEL-TWA: 200 ppm (266 mg/m3) (WEL), 200 ppm (260 mg/m3) (EU)	WEL-STEL: 250 ppm (333 mg/m3) (WEL)	---
Monitoring procedures:	- Compur - KITA-119 SA (549 640) - Compur - KITA-119 U (549 657) - Draeger - Alcohol 25/a Methanol (81 01 631) DFG (D) (Lösungsmittelgemische 6), DFG (E) (Solvent mixtures 6) - 1998, - 2002 - EU project BC/CEN/ENTR/000/2002-16 card 65-1 (2004) - Draeger - Alcohol 100/a (CH 29 701)	
BMGV: ---	Other information: Sk (WEL, EU)	

WEL-TWA = Workplace Exposure Limit - Long-term exposure limit (8-hour TWA (= time weighted average) reference period) EH40. AGW = "Arbeitsplatzgrenzwert" (workplace limit value, Germany).
 (8) = Inhalable fraction (2017/164/EU, 2017/2398/EU). (9) = Respirable fraction (2017/164/EU, 2017/2398/EU). | WEL-STEL = Workplace Exposure Limit - Short-term exposure limit (15-minute reference period).
 (8) = Inhalable fraction (2017/164/EU, 2017/2398/EU). (9) = Respirable fraction (2017/164/EU, 2017/2398/EU). (10) = Short-term exposure limit value in relation to a reference period of 1 minute (2017/164/EU). | BMGV = Biological monitoring guidance value EH40. BGW = "Biologischer Grenzwert" (biological limit value, Germany) | Other information: Sen = Capable of causing occupational asthma. Sk = Can be absorbed through skin. Carc = Capable of causing cancer and/or heritable genetic damage.
 ** = The exposure limit for this substance is repealed through the TRGS 900 (Germany) of January 2006 with the goal of revision.

8.2 Exposure controls

Methanol						
Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - freshwater		PNEC	154	mg/l	
	Environment - marine		PNEC	15,4	mg/l	
	Environment - sediment, freshwater		PNEC	570,4	mg/kg	
	Environment - sediment, marine		PNEC	57,04	mg/kg	
	Environment - soil		PNEC	23,5	mg/kg	
	Environment - water, sporadic (intermittent) release		PNEC	1540	mg/l	
	Environment - sewage treatment plant		PNEC	100	mg/l	
	Environment - freshwater		PNEC	20,8	mg/l	
	Environment - marine		PNEC	2,08	mg/l	
	Environment - sediment		PNEC	77	mg/kg	
	Environment - sediment		PNEC	7,7	mg/kg	
Consumer	Human - inhalation	Long term, local effects	DNEL	50	mg/m3	
Consumer	Human - dermal	Short term, systemic effects	DNEL	8	mg/kg body weight/day	

Consumer	Human - inhalation	Short term, systemic effects	DNEL	50	mg/m3	
Consumer	Human - oral	Short term, systemic effects	DNEL	8	mg/kg body weight/day	
Consumer	Human - dermal	Long term, systemic effects	DNEL	8	mg/kg body weight/day	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	50	mg/m3	
Consumer	Human - oral	Long term, systemic effects	DNEL	8	mg/kg body weight/day	
Workers / employees	Human - dermal	Short term, systemic effects	DNEL	40	mg/kg body weight/day	
Workers / employees	Human - inhalation	Short term, systemic effects	DNEL	260	mg/m3	
Workers / employees	Human - inhalation	Short term, local effects	DNEL	260	mg/m3	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	40	mg/kg body weight/day	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	260	mg/m3	
Workers / employees	Human - inhalation	Long term, local effects	DNEL	260	mg/m3	

8.2.1 Appropriate engineering controls

Ensure good ventilation. This can be achieved by local suction or general air extraction.
 If this is insufficient to maintain the concentration under the WEL or AGW values, suitable breathing protection should be worn.
 Applies only if maximum permissible exposure values are listed here.
 Suitable assessment methods for reviewing the effectiveness of protection measures adopted include metrological and non-metrological investigative techniques.
 These are specified by e.g. BS EN 14042.
 BS EN 14042 "Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents".

8.2.2 Individual protection measures, such as personal protective equipment

General hygiene measures for the handling of chemicals are applicable.
 Wash hands before breaks and at end of work.
 Keep away from food, drink and animal feedingstuffs.
 Remove contaminated clothing and protective equipment before entering areas in which food is consumed.

Eye/face protection:
 Tight fitting protective goggles with side protection (EN 166).

Skin protection - Hand protection:
 Chemical resistant protective gloves (EN 374).
 Recommended
 With short-term contact:
 Protective Viton® / fluoroelastomer gloves (EN 374)
 Permeation time (penetration time) in minutes:
 > 120

With long-term contact:
 Protective gloves in butyl rubber (EN 374).
 Permeation time (penetration time) in minutes:
 > 480

References
 Protective hand cream recommended.
 The breakthrough times determined in accordance with EN 16523-1 were not obtained under practical conditions.
 The recommended maximum wearing time is 50% of breakthrough time.

Skin protection - Other:

Protective working garments (e.g. safety shoes EN ISO 20345, long-sleeved protective working garments).

According to operation.

Protective working garment, antistatic (EN1149)

Natural fibre or heat-resistant synthetic fibre

Respiratory protection:

If OES or MEL is exceeded.

With short-term contact:

Gas mask filter AX (EN 14387), code colour brown.

With long-term contact:

Protective respirator with independent air supply.

Observe wearing time limitations for respiratory protection equipment.

Thermal hazards:

Not applicable

Additional information on hand protection - No tests have been performed.

In the case of mixtures, the selection has been made according to the knowledge available and the information about the contents.

Selection of materials derived from glove manufacturer's indications.

Final selection of glove material must be made taking the breakthrough times, permeation rates and degradation into account.

Selection of a suitable glove depends not only on the material but also on other quality characteristics and varies from manufacturer to manufacturer.

In the case of mixtures, the resistance of glove materials cannot be predicted and must therefore be tested before use.

The exact breakthrough time of the glove material can be requested from the protective glove manufacturer and must be observed.

8.2.3 Environmental exposure controls

No information available at present.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state:	Liquid
Colour:	Colourless
Odour:	Alcoholic
Odour threshold:	Not determined
pH-value:	Not determined
Melting point/freezing point:	-98 °C
Initial boiling point and boiling range:	64,7 °C
Flash point:	11 °C
Evaporation rate:	Not determined
Flammability (solid, gas):	n.a.
Lower explosive limit:	5,5 Vol-%
Upper explosive limit:	44 Vol-%
Vapour pressure:	128 hPa (20°C)
Vapour density (air = 1):	1,11 (References)
Density:	0,79 g/cm3 (20°C)
Bulk density:	n.a.
Solubility(ies):	Not determined
Water solubility:	Soluble
Partition coefficient (n-octanol/water):	-0,77 (References log Pow)
Auto-ignition temperature:	455 °C (Ignition temperature)
Decomposition temperature:	Not determined
Viscosity:	0,597 mPas (20°C, References)
Explosive properties:	Possible build up of explosive/highly flammable vapour/air mixture. Product is not explosive.
Oxidising properties:	No

9.2 Other information

Miscibility:	Not determined
Fat solubility / solvent:	Not determined
Conductivity:	Not determined

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Surface tension: Not determined
 Solvents content: Not determined

SECTION 10: Stability and reactivity

10.1 Reactivity

The product has not been tested.

10.2 Chemical stability

Stable with proper storage and handling.

10.3 Possibility of hazardous reactions

No decomposition if used as intended.

10.4 Conditions to avoid

See also section 7.

Heating, open flame, ignition sources

Protect from humidity.

Product is hygroscopic.

Electrostatic charge

10.5 Incompatible materials

See also section 7.

Alkali metals

Alkaline-earth metals

Development of:

Hydrogen gas

Exothermic reaction possible with:

Acids

Acid halide

Acid anhydrides

Reducing agent

Danger of explosion with:

Oxidizing agents

Perchlorates

Peroxides

Perchloric acid

Chromium (VI) trioxide

Chlorates

Nitric acid

Oxides of nitrogen

Halogens

Magnesium

Hydrogen peroxide

10.6 Hazardous decomposition products

See also section 5.2

No decomposition when used as directed.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Possibly more information on health effects, see Section 2.1 (classification).

Methanol						
Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	ATE	300	mg/kg	Human being		Experiences on persons.
Acute toxicity, by dermal route:	LD50	17100	mg/kg	Rabbit		Does not conform with EU classification.

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Acute toxicity, by inhalation:	LC50	85	mg/l/4h	Rat		Not relevant for classification., Vapours
Skin corrosion/irritation:						n.d.a.
Serious eye damage/irritation:				Rabbit	OECD 405 (Acute Eye Irritation/Corrosion)	Mild irritant
Respiratory or skin sensitisation:				Guinea pig	OECD 406 (Skin Sensitisation)	Not sensitising
Germ cell mutagenicity:					OECD 471 (Bacterial Reverse Mutation Test)	Negative
Carcinogenicity:						n.d.a.
Reproductive toxicity:						n.d.a.
Specific target organ toxicity - single exposure (STOT-SE):						n.d.a.
Specific target organ toxicity - repeated exposure (STOT-RE):						n.d.a.
Aspiration hazard:						n.d.a.
Symptoms:						abdominal pain, vomiting, headaches, gastrointestinal disturbances, drowsiness, visual disturbances, watering eyes, nausea, mental confusion

SECTION 12: Ecological information

Possibly more information on environmental effects, see Section 2.1 (classification).

Methanol							
Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LC50	96h	15400	mg/l	Lepomis macrochirus		
12.1. Toxicity to daphnia:	EC50	48h	>10000	mg/l	Daphnia magna		
12.1. Toxicity to algae:							n.d.a.
12.2. Persistence and degradability:		28d	99	%		OECD 301 D (Ready Biodegradability - Closed Bottle Test)	Readily biodegradable
12.3. Bioaccumulative potential:	BCF		28400		Chlorella vulgaris		
12.4. Mobility in soil:							n.d.a.
12.5. Results of PBT and vPvB assessment							n.d.a.
12.6. Other adverse effects:							n.d.a.
Other information:	DOC		<70	%			
Other information:	BOD		>60	%			

SECTION 13: Disposal considerations

13.1 Waste treatment methods

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For the substance / mixture / residual amounts

EC disposal code no.:

The waste codes are recommendations based on the scheduled use of this product.
 Owing to the user's specific conditions for use and disposal, other waste codes may be allocated under certain circumstances. (2014/955/EU)
 13 07 03 other fuels (including mixtures)

Recommendation:

Sewage disposal shall be discouraged.
 Pay attention to local and national official regulations.
 E.g. suitable incineration plant.
 E.g. dispose at suitable refuse site.

For contaminated packing material

Pay attention to local and national official regulations.
 Empty container completely.
 Uncontaminated packaging can be recycled.
 Dispose of packaging that cannot be cleaned in the same manner as the substance.
 Do not perforate, cut up or weld uncleaned container.
 Residues may present a risk of explosion.

SECTION 14: Transport information


General statements

14.1. UN number: 3473

Transport by road/by rail (ADR/RID)

14.2. UN proper shipping name:

UN 3473 FUEL CELL CARTRIDGES

14.3. Transport hazard class(es): 3 

14.4. Packing group: -

Classification code: F3

LQ: 1 L


14.5. Environmental hazards: Not applicable

Tunnel restriction code: E

Transport by sea (IMDG-code)

14.2. UN proper shipping name:

FUEL CELL CARTRIDGES

14.3. Transport hazard class(es): 3 

14.4. Packing group: -

EmS: F-E, S-D

Marine Pollutant: n.a

14.5. Environmental hazards: Not applicable

Transport by air (IATA)

14.2. UN proper shipping name:

Fuel cell cartridges

14.3. Transport hazard class(es): 3 

14.4. Packing group: -

14.5. Environmental hazards: Not applicable

14.6. Special precautions for user

Persons employed in transporting dangerous goods must be trained.
 All persons involved in transporting must observe safety regulations.
 Precautions must be taken to prevent damage.

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

Freighted as packaged goods rather than in bulk, therefore not applicable.

Minimum amount regulations have not been taken into account.

Danger code and packing code on request.

Comply with special provisions.

SECTION 15: Regulatory information

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

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Observe restrictions:
 Comply with national regulations/laws governing the protection of young people at work (national implementation of the Directive 94/33/EC)!
 Regulation (EC) No 1907/2006, Annex XVII
 Methanol
 Comply with national regulations/laws governing maternity protection (national implementation of the Directive 92/85/EEC)!
 Comply with trade association/occupational health regulations.

Directive 2012/18/EU ("Seveso III"), Annex I, Part 1 - The following categories apply to this product (others may also need to be considered according to storage, handling etc.):

Hazard categories	Notes to Annex I	Qualifying quantity (tonnes) of dangerous substances as referred to in Article 3(10) for the application of - Lower-tier requirements	Qualifying quantity (tonnes) of dangerous substances as referred to in Article 3(10) for the application of - Upper-tier requirements
P5c		5000	50000
H2	7	50	200
H3		50	200

The Notes to Annex 1 of Directive 2012/18/EU, in particular those named in the tables here and notes 1-6, must be taken into account when assigning categories and qualifying quantities.

Directive 2010/75/EU (VOC): 100 %
 Directive 2010/75/EU (VOC): 790 g/l

Observe regulations on prohibition of chemicals.

15.2 Chemical safety assessment

There is no chemical safety report available.

SECTION 16: Other information

Revised sections: 2, 15
 Employee training in handling dangerous goods is required.
 These details refer to the product as it is delivered.
 Employee instruction/training in handling hazardous materials is required.
 The following phrases represent the posted Hazard Class and Risk Category Code (GHS/CLP) of the product and the constituents (specified in Section 2 and 3).
 H225 Highly flammable liquid and vapour.
 H301 Toxic if swallowed.
 H311 Toxic in contact with skin.
 H331 Toxic if inhaled.
 H370 Causes damage to organs.

 Flam. Liq. — Flammable liquid
 Acute Tox. — Acute toxicity - inhalation
 Acute Tox. — Acute toxicity - dermal
 STOT SE — Specific target organ toxicity - single exposure
 Acute Tox. — Acute toxicity - oral

Any abbreviations and acronyms used in this document:

AC Article Categories
 acc., acc. to according, according to
 ACGIH American Conference of Governmental Industrial Hygienists
 ADR Accord européen relatif au transport international des marchandises Dangereuses par Route (= European Agreement concerning the International Carriage of Dangerous Goods by Road)
 AOEL Acceptable Operator Exposure Level

AOX Adsorbable organic halogen compounds
 approx. approximately
 Art., Art. no. Article number
 ATE Acute Toxicity Estimate according to Regulation (EC) 1272/2008 (CLP)
 BAM Bundesanstalt für Materialforschung und -prüfung (Federal Institute for Materials Research and Testing, Germany)
 BAuA Bundesanstalt für Arbeitsschutz und Arbeitsmedizin (= Federal Institute for Occupational Health and Safety, Germany)
 BCF Bioconcentration factor
 BGV Berufsgenossenschaftliche Vorschrift (= Accident Prevention Regulation)
 BHT Butylhydroxytoluol (= 2,6-Di-t-butyl-4-methyl-phenol)
 BMGV Biological monitoring guidance value (EH40, UK)
 BOD Biochemical oxygen demand
 BSEF Bromine Science and Environmental Forum
 bw body weight
 CAS Chemical Abstracts Service
 CEC Coordinating European Council for the Development of Performance Tests for Fuels, Lubricants and Other Fluids
 CESIO Comité Européen des Agents de Surface et de leurs Intermédiaires Organiques
 CIPAC Collaborative International Pesticides Analytical Council
 CLP Classification, Labelling and Packaging (REGULATION (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures)
 CMR carcinogenic, mutagenic, reproductive toxic
 COD Chemical oxygen demand
 CTFA Cosmetic, Toiletry, and Fragrance Association
 DMEL Derived Minimum Effect Level
 DNEL Derived No Effect Level
 DOC Dissolved organic carbon
 DT50 Dwell Time - 50% reduction of start concentration
 DVS Deutscher Verband für Schweißen und verwandte Verfahren e.V. (= German Association for Welding and Allied Processes)
 dw dry weight
 e.g. for example (abbreviation of Latin 'exempli gratia'), for instance
 EC European Community
 ECHA European Chemicals Agency
 EEA European Economic Area
 EEC European Economic Community
 EINECS European Inventory of Existing Commercial Chemical Substances
 ELINCS European List of Notified Chemical Substances
 EN European Norms
 EPA United States Environmental Protection Agency (United States of America)
 ERC Environmental Release Categories
 ES Exposure scenario
 etc. et cetera
 EU European Union
 EWC European Waste Catalogue
 Fax. Fax number
 gen. general
 GHS Globally Harmonized System of Classification and Labelling of Chemicals
 GWP Global warming potential
 HET-CAM Hen's Egg Test - Chorionallantoic Membrane
 HGWP Halocarbon Global Warming Potential
 IARC International Agency for Research on Cancer
 IATA International Air Transport Association
 IBC Intermediate Bulk Container
 IBC (Code) International Bulk Chemical (Code)
 IC Inhibitory concentration
 IMDG-code International Maritime Code for Dangerous Goods
 incl. including, inclusive
 IUCLID International Uniform Chemical Information Database
 LC lethal concentration
 LC50 lethal concentration 50 percent kill
 LCLo lowest published lethal concentration
 LD Lethal Dose of a chemical
 LD50 Lethal Dose, 50% kill
 LDLo Lethal Dose Low
 LOAEL Lowest Observed Adverse Effect Level

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 Safety data sheet according to Regulation (EC) No 1907/2006, Annex II
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 Fuel Cartridge – M5, M10, M28

LOEC Lowest Observed Effect Concentration
 LOEL Lowest Observed Effect Level
 LQ Limited Quantities
 MARPOL International Convention for the Prevention of Marine Pollution from Ships
 n.a. not applicable
 n.av. not available
 n.c. not checked
 n.d.a. no data available
 NIOSH National Institute of Occupational Safety and Health (United States of America)
 NOAEC No Observed Adverse Effective Concentration
 NOAEL No Observed Adverse Effect Level
 NOEC No Observed Effect Concentration
 NOEL No Observed Effect Level
 ODP Ozone Depletion Potential
 OECD Organisation for Economic Co-operation and Development
 org. organic
 PAH polycyclic aromatic hydrocarbon
 PBT persistent, bioaccumulative and toxic
 PC Chemical product category
 PE Polyethylene
 PNEC Predicted No Effect Concentration
 POCP Photochemical ozone creation potential
 ppm parts per million
 PROC Process category
 PTFE Polytetrafluorethylene
 REACH Registration, Evaluation, Authorisation and Restriction of Chemicals (REGULATION (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals)
 REACH-IT List-No. 9xx-xxx-x No. is automatically assigned, e.g. to pre-registrations without a CAS No. or other numerical identifier. List Numbers do not have any legal significance, rather they are purely technical identifiers for processing a submission via REACH-IT.
 RID Règlement concernant le transport International ferroviaire de marchandises Dangereuses (= Regulation concerning the International Carriage of Dangerous Goods by Rail)
 SADT Self-Accelerating Decomposition Temperature
 SAR Structure Activity Relationship
 SU Sector of use
 SVHC Substances of Very High Concern
 Tel. Telephone
 ThOD Theoretical oxygen demand
 TOC Total organic carbon
 TRGS Technische Regeln für Gefahrstoffe (=Technical Regulations for Hazardous Substances)
 UN RTDG United Nations Recommendations on the Transport of Dangerous Goods
 VbF Verordnung über brennbare Flüssigkeiten (= Regulation for flammable liquids (Austria))
 VOC Volatile organic compounds
 vPvB very persistent and very bioaccumulative
 WEL-TWA, WEL-STEL WEL-TWA = Workplace Exposure Limit - Long-term exposure limit (8-hour TWA (= time weighted average) reference period), WEL-STEL = Workplace Exposure Limit - Short-term exposure limit (15-minute reference period) (EH40, UK).
 WHO World Health Organization
 wwt wet weight

The statements made here should describe the product with regard to the necessary safety precautions - they are not meant to guarantee definite characteristics - but they are based on our present up-to-date knowledge. No responsibility.

These statements were made by:

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