

# SAFETY DATA SHEET

## Fuel Cartridge - M5, M10, M28

### Section 1. Identification

**Product identifier** : Fuel Cartridge - M5, M10, M28  
**Product code** : Not available.  
**Chemical name** : methanol  
**Other means of identification** : Methyl alcohol; Wood spirit; Wood naphtha; Wood alcohol; Pyroligneous spirit; Columbian spirits; Carbinol; Methanol (I); Methyl alcohol (I); Methyl alcohol  
**Product type** : Liquid.

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

**Product use** : Fuel cell cartridges  
**Area of application** : Consumer applications.

**Supplier's details** : SFC Energy AG  
Eugen-Sänger-Ring 7  
D-85649 Brunnthal  
Info@sfc.com  
  
Telephone no.: +49 (0)89 673-592  
Fax no.: +49 (0)89 673-592-369

**e-mail address of person responsible for this SDS** : info@chemical-check.de; k.schnurbusch@chemical-check.de

**Emergency telephone number (with hours of operation)** : INFOTRAC: +1-352-323-3500 (English only)

### Section 2. Hazards identification

**Classification of the substance or mixture** : H225 FLAMMABLE LIQUIDS - Category 2  
H301 ACUTE TOXICITY (oral) - Category 3  
H311 ACUTE TOXICITY (dermal) - Category 3  
H331 ACUTE TOXICITY (inhalation) - Category 3  
H319 EYE IRRITATION - Category 2A  
H360 REPRODUCTIVE TOXICITY - Category 1B  
H370 SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 1  
H336 SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Narcotic effects) - Category 3

#### GHS label elements

**Hazard pictograms** :



**Signal word** : Danger

**Version** : 2

**Date of issue/Date of revision** : 7/21/2020

## Section 2. Hazards identification

<b>Hazard statements</b>	: <ul style="list-style-type: none"> <li>P225 - Highly flammable liquid and vapour.</li> <li>H301 + H311 + H331 - Toxic if swallowed, in contact with skin or if inhaled.</li> <li>H319 - Causes serious eye irritation.</li> <li>H336 - May cause drowsiness or dizziness.</li> <li>H360 - May damage fertility or the unborn child.</li> <li>H370 - Causes damage to organs. (central nervous system (CNS), optic nerve)</li> </ul>
<b>Precautionary statements</b>	
<b>Prevention</b>	: <ul style="list-style-type: none"> <li>P201 - Obtain special instructions before use.</li> <li>P280 - Wear protective gloves. Wear protective clothing. Wear eye or face protection.</li> <li>P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.</li> <li>P241 - Use explosion-proof electrical, ventilating or lighting equipment.</li> <li>P242 - Use non-sparking tools.</li> <li>P243 - Take action to prevent static discharges.</li> <li>P271 - Use only outdoors or in a well-ventilated area.</li> <li>P260 - Do not breathe vapour.</li> <li>P270 - Do not eat, drink or smoke when using this product.</li> <li>P264 - Wash thoroughly after handling.</li> </ul>
<b>Response</b>	: <ul style="list-style-type: none"> <li>P308 + P311 - IF exposed or concerned: Call a POISON CENTER or doctor.</li> <li>P304 + P340, P311 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor.</li> <li>P301 + P310, P330 - IF SWALLOWED: Immediately call a POISON CENTER or doctor. Rinse mouth.</li> <li>P361 + P364 - Take off immediately all contaminated clothing and wash it before reuse.</li> <li>P302 + P312, P352 - IF ON SKIN: Call a POISON CENTER or doctor if you feel unwell. Wash with plenty of water.</li> <li>P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</li> <li>P337 + P313 - If eye irritation persists: Get medical advice or attention.</li> </ul>
<b>Storage</b>	: <ul style="list-style-type: none"> <li>P405 - Store locked up.</li> <li>P403 + P233 - Store in a well-ventilated place. Keep container tightly closed.</li> <li>P403 + P235 - Keep cool.</li> </ul>
<b>Disposal</b>	: <ul style="list-style-type: none"> <li>P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.</li> </ul>
<b>Other hazards which do not result in classification</b>	: <ul style="list-style-type: none"> <li>None known.</li> </ul>

## Section 3. Composition/information on ingredients

<b>Substance/mixture</b>	: Substance
<b>Chemical name</b>	: methanol
<b>Other means of identification</b>	: <ul style="list-style-type: none"> <li>Methyl alcohol; Wood spirit; Wood naphtha; Wood alcohol; Pyroligneous spirit; Columbian spirits; Carbinol; Methanol (I); Methyl alcohol (I); Methyl alcohol</li> </ul>
<b>CAS number/other identifiers</b>	
<b>CAS number</b>	: 67-56-1
<b>EC number</b>	: 200-659-6

## Section 3. Composition/information on ingredients

Ingredient name	%	CAS number
methanol	>60	67-56-1

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

**Chemical formula** : C-H4-O

## Section 4. First aid measures

### Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention. If necessary, call a poison center or physician.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Skin contact** : Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. If necessary, call a poison center or physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

### Most important symptoms/effects, acute and delayed

#### Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : Toxic if inhaled. Causes damage to organs following a single exposure if inhaled. Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.
- Skin contact** : Toxic in contact with skin. Causes damage to organs following a single exposure in contact with skin.
- Ingestion** : Toxic if swallowed. Causes damage to organs following a single exposure if swallowed. Can cause central nervous system (CNS) depression.

#### Over-exposure signs/symptoms

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**Date of issue/Date of revision** : 7/21/2020

## Section 4. First aid measures

- Eye contact** : Adverse symptoms may include the following:  
pain or irritation  
watering  
redness
- Inhalation** : ☒ Adverse symptoms may include the following:  
nausea or vomiting  
headache  
drowsiness/fatigue  
dizziness/vertigo  
unconsciousness  
reduced foetal weight  
increase in foetal deaths  
skeletal malformations
- Skin contact** : ☒ Adverse symptoms may include the following:  
reduced foetal weight  
increase in foetal deaths  
skeletal malformations
- Ingestion** : Adverse symptoms may include the following:  
reduced foetal weight  
increase in foetal deaths  
skeletal malformations

### Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

## Section 5. Firefighting measures

### Extinguishing media

- Suitable extinguishing media** : Use dry chemical, CO<sub>2</sub>, water spray (fog) or foam.
- Unsuitable extinguishing media** : Do not use water jet.

- Specific hazards arising from the chemical** : ☒ Highly flammable liquid and vapour. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapour/gas is heavier than air and will spread along the ground. Vapours may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide

## Section 5. Firefighting measures

**Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

**Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

**For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

**For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

**Environmental precautions** : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### Methods and material for containment and cleaning up

**Small spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

**Large spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## Section 7. Handling and storage

### Precautions for safe handling

**Protective measures** : Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from

## Section 7. Handling and storage

- heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
- Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidising materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

## Section 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

Ingredient name	Exposure limits
Methanol	<b>Workplace Safety and Health Act (Singapore, 2/2006).</b> PEL (long term): 200 ppm 8 hours. PEL (long term): 262 mg/m <sup>3</sup> 8 hours. PEL (short term): 328 mg/m <sup>3</sup> 15 minutes. PEL (short term): 250 ppm 15 minutes.

- Appropriate engineering controls** : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.
- Environmental exposure controls** : 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.
- Individual protection measures**
- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

## Section 8. Exposure controls/personal protection

- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.
- Thermal hazards** : Not available.

## Section 9. Physical and chemical properties

### Appearance

- Physical state** : Liquid. [Clear.]
- Colour** : Colourless.
- Odour** : Sweet. Characteristic. Pungent.
- Odour threshold** : Not available.
- pH** : Not available.
- Melting point** : -98°C (-144.4°F)
- Boiling point** : 64.7°C (148.5°F)
- Flash point** : Closed cup: 11°C (51.8°F)
- Evaporation rate** : 2.1 (butyl acetate = 1)
- Flammability (solid, gas)** : Not applicable.
- Lower and upper explosive (flammable) limits** : Lower: 6%  
Upper: 44%
- Vapour pressure** : 16.9 kPa (126.96 mm Hg) [room temperature]
- Vapour density** : 1.1 [Air = 1]
- Relative density** : 0.79
- Density** : 0.7915 g/cm³ [20°C (68°F)]
- Solubility** : Not available.



## Section 9. Physical and chemical properties

<b>Solubility in water</b>	: 1000 g/l
<b>Partition coefficient: n-octanol/water</b>	: -0.77
<b>Auto-ignition temperature</b>	: 455°C (851°F)
<b>Decomposition temperature</b>	: Not available.
<b>Viscosity</b>	: Dynamic (room temperature): 0.54 to 0.59 mPa·s (0.54 to 0.59 cP)
<b>Flow time (ISO 2431)</b>	: Not available.
<b>Molecular weight</b>	: 32.05 g/mole

## Section 10. Stability and reactivity

<b>Reactivity</b>	: No specific test data related to reactivity available for this product or its ingredients.
<b>Chemical stability</b>	: The product is stable.
<b>Possibility of hazardous reactions</b>	: Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous polymerisation will not occur.
<b>Conditions to avoid</b>	: Avoid all possible sources of ignition (spark or flame). Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow vapour to accumulate in low or confined areas. Protect from moisture. Hygroscopic.
<b>Incompatible materials</b>	: Reactive or incompatible with the following materials: oxidising materials Reactive or incompatible with the following materials: reducing materials and acids. Alkali metal salt. Alkaline earth metal salt. Product may release hydrogen. Risks of explosion: Chromium trioxide. perchlorates. chlorates. perchloric acid. peroxides. hydrogen peroxide. nitric acid. nitrogen oxides. halogenated compounds. magnesium. Zinc. Plastic.
<b>Hazardous decomposition products</b>	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.
<b>SADT</b>	: Not available.

## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
methanol	LC50 Inhalation Gas.	Rat	145000 ppm	1 hours
	LC50 Inhalation Gas.	Rat	64000 ppm	4 hours
	LD50 Dermal	Rabbit	15800 mg/kg	-
	LD50 Oral	Rat	5600 mg/kg	-

**Conclusion/Summary** : Not available.

#### Irritation/Corrosion

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## Section 11. Toxicological information

Product/ingredient name	Result	Species	Score	Exposure	Observation
Methanol	Eyes - Moderate irritant	Rabbit	-	24 hours 100 mg	-
	Eyes - Moderate irritant	Rabbit	-	40 mg	-

### Conclusion/Summary

**Skin** : Not available.

**Eyes** : Not available.

**Respiratory** : Not available.

### Sensitisation

#### Conclusion/Summary

**Skin** : Not available.

**Respiratory** : Not available.

### Mutagenicity

**Conclusion/Summary** : Not available.

### Carcinogenicity

**Conclusion/Summary** : Not available.

### Reproductive toxicity

**Conclusion/Summary** : Not available.

### Teratogenicity

**Conclusion/Summary** : Not available.

### Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Methanol	Category 1	-	central nervous system (CNS), optic nerve
	Category 3		Narcotic effects

### Specific target organ toxicity (repeated exposure)

Not available.

### Aspiration hazard

Not available.

**Information on likely routes of exposure** : Routes of entry anticipated: Oral, Dermal, Inhalation.

### Potential acute health effects

**Eye contact** : Causes serious eye irritation.

**Inhalation** : Toxic if inhaled. Causes damage to organs following a single exposure if inhaled. Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.

**Skin contact** : Toxic in contact with skin. Causes damage to organs following a single exposure in contact with skin.

**Ingestion** : Toxic if swallowed. Causes damage to organs following a single exposure if swallowed. Can cause central nervous system (CNS) depression.

### Symptoms related to the physical, chemical and toxicological characteristics

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## Section 11. Toxicological information

- Eye contact** : Adverse symptoms may include the following:  
pain or irritation  
watering  
redness
- Inhalation** : ☒ Adverse symptoms may include the following:  
nausea or vomiting  
headache  
drowsiness/fatigue  
dizziness/vertigo  
unconsciousness  
reduced foetal weight  
increase in foetal deaths  
skeletal malformations
- Skin contact** : ☒ Adverse symptoms may include the following:  
reduced foetal weight  
increase in foetal deaths  
skeletal malformations
- Ingestion** : Adverse symptoms may include the following:  
reduced foetal weight  
increase in foetal deaths  
skeletal malformations

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

#### Short term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

#### Long term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

#### Potential chronic health effects

**Conclusion/Summary** : Not available.

**General** : ☒ No known significant effects or critical hazards.

**Carcinogenicity** : No known significant effects or critical hazards.

**Mutagenicity** : No known significant effects or critical hazards.

**Teratogenicity** : May damage the unborn child.

**Developmental effects** : No known significant effects or critical hazards.

**Fertility effects** : No known significant effects or critical hazards.

### Numerical measures of toxicity

#### Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
<input checked="" type="checkbox"/> Methanol	100	300	64000	3	N/A

## Section 11. Toxicological information

## Section 12. Ecological information

### Toxicity

Product/ingredient name	Result	Species	Exposure
methanol	Acute EC50 16.912 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Acute LC50 2500000 µg/l Marine water	Crustaceans - Crangon crangon	48 hours
		- Adult	
	Acute LC50 3289 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 290 mg/l Fresh water	Fish - Danio rerio - Egg	96 hours
	Chronic NOEC 9.96 mg/l Marine water	Algae - Ulva pertusa	96 hours

**Conclusion/Summary** : Not available.

### Persistence/degradability

**Conclusion/Summary** : Not available.

### Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
methanol	-0.77	<10	low

### Mobility in soil






**Soil/water partition coefficient (K<sub>oc</sub>)** : Not available.

**Other adverse effects** : No known significant effects or critical hazards.

## Section 13. Disposal considerations

**Disposal methods** : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapour from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

## Section 14. Transport information

	UN	IMDG	IATA	ADR/RID	ADN
UN number	UN3473	UN3473	UN3473	UN3473	UN3473
UN proper shipping name	FUEL CELL CARTRIDGES	FUEL CELL CARTRIDGES	Fuel cell cartridges	FUEL CELL CARTRIDGES	FUEL CELL CARTRIDGES
Transport hazard class(es)	3 	3 	3 	3 	3 
Packing group					
Environmental hazards	No.	No.	No.	No.	Yes.

### Additional information

UN	: <b>Special provisions</b> 328
IMDG	: <b>Emergency schedules</b> F-E, S-D <b>Special provisions</b> 328
IATA	: <b>Quantity limitation</b> Passenger and Cargo Aircraft: 5 kg. Packaging instructions: 374. Cargo Aircraft Only: 50 kg. Packaging instructions: 374. Limited Quantities - Passenger Aircraft: 2.5 kg. Packaging instructions: Y374. <b>Special provisions</b> A146, A802
ADR/RID	: <b>Hazard identification number</b> 336 <b>Limited quantity</b> 1 L <b>Special provisions</b> 328 <b>Tunnel code</b> (E)
ADN	: <b>The product is only regulated as an environmentally hazardous substance when transported in tank vessels.</b> <b>Special provisions</b> 328

**Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**Transport in bulk according to IMO instruments** : Not available.

## Section 15. Regulatory information

### Singapore - hazardous chemicals under government control

None.

### International regulations

#### Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

#### Montreal Protocol

Not listed.

#### Stockholm Convention on Persistent Organic Pollutants

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## Section 15. Regulatory information

Not listed.

### [Rotterdam Convention on Prior Informed Consent \(PIC\)](#)

Not listed.

### [UNECE Aarhus Protocol on POPs and Heavy Metals](#)


Not listed.

## Section 16. Other information

### [History](#)

<b>Date of issue/Date of revision</b>	: 7/21/2020
<b>Date of previous issue</b>	: 2/14/2017
<b>Version</b>	: 2
<b>Prepared by</b>	: Chemical Check GmbH
<b>Key to abbreviations</b>	: ATE = Acute Toxicity Estimate BCF = Bioconcentration Factor GHS = Globally Harmonized System of Classification and Labelling of Chemicals IATA = International Air Transport Association IBC = Intermediate Bulk Container IMDG = International Maritime Dangerous Goods LogPow = logarithm of the octanol/water partition coefficient MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution) N/A = Not available UN = United Nations

### [Procedure used to derive the classification](#)

Classification	Justification
 FLAMMABLE LIQUIDS - Category 2 ACUTE TOXICITY (oral) - Category 3 ACUTE TOXICITY (dermal) - Category 3 ACUTE TOXICITY (inhalation) - Category 3 EYE IRRITATION - Category 2A REPRODUCTIVE TOXICITY - Category 1B SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 1 SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Narcotic effects) - Category 3	On basis of test data Expert judgment Expert judgment On basis of test data On basis of test data Expert judgment Expert judgment Expert judgment

**References** : GHS - Globally Harmonized System of Classification and Labeling of Chemicals  
International transport regulations

 Indicates information that has changed from previously issued version.

### [Notice to reader](#)

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.