# SpermFlowEx Kit

**Product Identification**

<table>
<thead>
<tr>
<th>Cat. No.</th>
<th>Product name</th>
</tr>
</thead>
<tbody>
<tr>
<td>ED7079</td>
<td>SpermFlowEx Kit</td>
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</tbody>
</table>

## Components of the Kit

<table>
<thead>
<tr>
<th>Code</th>
<th>Name</th>
<th>Classification</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ED7079-1</td>
<td>Intra-acrosomal protein FITC</td>
<td>Not classified as hazardous.</td>
<td>-</td>
</tr>
<tr>
<td>ED7079-2</td>
<td>CD45 PE-Cy™5</td>
<td>Not classified as hazardous.</td>
<td>-</td>
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<tr>
<td>ED7079-3</td>
<td>Fluorescent Count Standard</td>
<td>Not classified as hazardous.</td>
<td>-</td>
</tr>
<tr>
<td>ED7079-4</td>
<td>Propidium iodide</td>
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<tr>
<td>ED7079-5</td>
<td>Permeabilizing Solution</td>
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<td>2-10</td>
</tr>
</tbody>
</table>
SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier
Permeabilizing Solution
Part of SpermFlowEx Kit
Substance / mixture
mixture
Catalog number
ED7079-5

1.2 Relevant identified uses of the substance or mixture and uses advised against
Intended use of the mixture
diagnostic reagent
Not recommended use of the mixture
The product should not be used in ways other than those referred in Section 1.

1.3 Details of the supplier of the safety data sheet
Manufacturer
Name or trade name
EXBIO Praha a.s.
Address
Nad Safinou II 341, Vestec, 25250 Česká republika
Phone
+420 261090 666
Fax
+420 261090 660
Email
orders@exbio.cz
Web address
www.exbio.cz

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture
Classification of the mixture in accordance with Regulation (EC) No 1272/2008
The mixture is classified as dangerous according to Regulation (EC) No 1272/2008
Flam. Liq. 3, H226

The most serious adverse physico-chemical effects
Flammable liquid and vapours. Vapours are flammable and heavier than air. Vapors / aerosols may form an explosive mixture heavier than air, accumulated in lower areas, which may spread fire over long distances.

The most serious adverse effects on human health and the environment
Not specified.

2.2 Label elements

Signal word
Warning
Hazardous substances

ethanol

Hazard statements:

H226 Flammable liquid and vapours.

Precautionary statements:

P210 Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
P260 Do not breathe vapours/spray.
P280 Wear protective gloves / eye protection / face protection.
P301+P312 IF SWALLOWED: Call a POISON Center or doctor/physician if you feel unwell
P302+P352 IF ON SKIN: Wash with plenty of soap and water.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P501 Dispose of contents/container to authorized facility for dangerous wastes.

2.3. Other hazards

Substance does not meet the criteria for PBT or vPvB in accordance with Annex XIII of Regulation (EC) No 1272/2008.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Chemical characterization

Mixture of ethanol and auxiliary compounds in water.

<table>
<thead>
<tr>
<th>Identification</th>
<th>Name of the substance</th>
<th>Content in % weight</th>
<th>Classification according to Regulation (EC) No 1272/2008</th>
<th>Note</th>
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</thead>
<tbody>
<tr>
<td>Index: 603-002-00-5 CAS: 64-17-5 ES: 200-578-6 Registrační číslo: 01-2119457610-43-XXXX</td>
<td>ethanol</td>
<td>&lt;50</td>
<td>Flam, Liq. 2, H225 Eye Irrit. 2, H319</td>
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</tbody>
</table>

Notes

1 Substance for which exposure limits of Community for working environment exist.

Full text of all classifications and H-phrases is given in the section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

If any health problems are manifested or if in doubt, inform a doctor and show him information from this Safety Data Sheet. If unconscious, put the person in the stabilized (recovery) position on his side with his head slightly bent backwards and make sure that airways are free; never induce vomiting. If the person vomits by himself, make sure that the vomit is not inhaled. In life threatening conditions first of all provide resuscitation of the affected person and ensure medical assistance. Respiratory arrest - provide artificial respiration immediately. Cardiac arrest - provide indirect cardiac massage immediately.

Inhalation

In case of problems following the vapours/aerosols inhalation, remove the affected persons to a fresh air. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation. Call immediately medical emergency.

Skin contact

Immediately remove all soiled or stained clothing. Wash the affected area immediately and repeatedly with soap and water. Use appropriate regenerating cream. Seek medical advice if the skin irritation persists.

Eye contact

Keep eyelids open and rinse immediately and repeatedly with copious amount of water for at least 10 - 15 minutes. Remove contact lenses, if present and easy to do. Seek medical advice if the eye irritation persists.

Ingestion

If swallowed, rinse mouth with water (only if the person is conscious). Do not induce vomiting! In case of spontaneous vomiting avoid aspiration of the vomits. Get medical attention immediately and show product package or label!
4.2. Most important symptoms and effects, both acute and delayed

**Inhalation**
Possible irritation of airways, cough, headache.

**Skin contact**
Prolonged or repeated skin contact may cause removal of natural fat from the skin resulting in dermatitis (skin inflammation).

**Eye contact**
Direct contact with eyes may cause slight and temporary irritation.

**Ingestion**
Swallowing of larger amounts may lead to stomachache, nausea, feelings of drunkenness, dizziness, vomiting or diarrhea. Contains ethanol - risk of ethanol intoxication upon swallowing of large amounts.

4.3. Indication of any immediate medical attention and special treatment needed
Use supportive and symptomatic treatment. Be very careful in case of vomiting or gastric lavage. Contains ethanol - if larger amounts were swallowed: use general therapy for ethanol intoxication.

SECTION 5: Firefighting measures

5.1. Extinguishing media

**Suitable extinguishing media**
alcohol-resistant foam, carbon dioxide, powder, water spray jet, water mist

**Unsuitable extinguishing media**
water - full jet

5.2. Special hazards arising from the substance or mixture
Flammable liquid and vapours. Harmful gases / smoke (carbon dioxide, aldehydes, carbon black, other decomposition products) can be produced during thermal decomposition at high temperatures or with insufficient combustion.

5.3. Advice for firefighters
Use a self-contained breathing apparatus and full-body protective clothing. Closed containers with the product near the fire should be cooled with water. Do not allow run-off of contaminated fire extinguishing material to enter drains or surface and ground water.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Observe all user considerations and safety measures. Strictly avoid contact with skin, eyes and mucous membranes. Avoid eating, drinking, and smoking during handling. See Section 8 for advice on the minimum requirements for personal protective equipment. All unprotected persons should be restraint. Avoid dusting. Ensure adequate ventilation. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

6.2. Environmental precautions
Prevent contamination of the soil and entering surface or ground water. Do not allow to enter drains.

6.3. Methods and material for containment and cleaning up
Spilled product should be covered with suitable (non-flammable) absorbing material (sand, diatomaceous earth, earth and other suitable absorption materials); to be contained in well closed containers and removed as per Section 13. Collected material should be disposed of in accordance with locally valid regulations. Upon an escape of large quantities of the product, inform the Fire Department and the Environmental Department of the Municipal Authority with extended scope of competencies. After removal of the product, wash the contaminated site with plenty of water or another suitable cleaning material. Do not use solvents.

6.4. Reference to other sections
7., 8. and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Observe all user considerations, safety measures and exposure limits. Avoid contact with skin, eyes and mucous membranes. Avoid eating, drinking, and smoking during handling. See Section 8 for advice on the minimum requirements for personal protective equipment. Avoid breathing mists or vapour. Use only with adequate ventilation. Prevent exposure to ignition sources, for example use non-sparking tools and explosion-proof equipment. Empty containers may contain flammable or explosive vapours - do not cut / drill.
7.2. Conditions for safe storage, including any incompatibilities
Store in tightly closed original packages or appropriately labeled alternate vessels. Store in dry, bunded areas. Keep away from direct sunlight and ignition sources. Recommended storage temperature: 2 - 8°C. Protect from freezing. Store away from oxidative compounds and strong acids/alkalis. Keep out of the reach of children.

7.3. Specific end use(s)
diagnostic reagent

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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<thead>
<tr>
<th>Czech Republic</th>
<th>European union</th>
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<tbody>
<tr>
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<td>Name of the substance (komponent)</td>
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<tr>
<td><strong>ethanol (CAS: 64-17-5)</strong></td>
<td><strong>ethanol (CAS: 64-17-5)</strong></td>
</tr>
<tr>
<td>PEL</td>
<td>AGW - weighted mean</td>
</tr>
<tr>
<td>1000 mg/m³</td>
<td>500 ppm / 960 mg/m³</td>
</tr>
<tr>
<td>PEL</td>
<td>TWA</td>
</tr>
<tr>
<td>532 ppm</td>
<td>1000 ppm / 1920 mg/m³</td>
</tr>
<tr>
<td>NPK-P</td>
<td>STEL</td>
</tr>
<tr>
<td>3000 mg/m³</td>
<td>-</td>
</tr>
<tr>
<td>NPK-P</td>
<td></td>
</tr>
<tr>
<td>1596 ppm</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
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<th>Time of exposure</th>
<th>Value</th>
<th>Note</th>
<th>Source</th>
</tr>
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<tbody>
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<td>PEL</td>
<td></td>
<td>1000 mg/m³</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PEL</td>
<td></td>
<td>532 ppm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NPK-P</td>
<td></td>
<td>3000 mg/m³</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NPK-P</td>
<td></td>
<td>1596 ppm</td>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>9/2013</td>
</tr>
</tbody>
</table>

8.2. Exposure controls
Follow usual measures for health protection at work and especially for good ventilation. This can be achieved only by local suction or efficient general ventilation. If exposure limits cannot be observed in this mode, suitable protection of airways must be used. Do not eat, drink and smoke during work. Wash your hands thoroughly with water and soap after work and before breaks for a meal and rest.

Eye/face protection
Protective goggles or face shield (based on the nature of the work performed).

Skin protection
Hand protection: Protective gloves resistant against the product. Observe recommendations of the particular manufacturer of the gloves in the choice of their appropriate thickness, material and permeability. Use barrier creams for skin protection, they should however not be applied once exposure has occurred. Observe other recommendations of the manufacturer. Other protection: Protective antistatic clothing made of natural fibres (cotton) or synthetic fibres resistant against elevated temperatures. Contaminated skin should be washed thoroughly.

Respiratory protection
Mask with a filter against organic vapours or a self-contained breathing apparatus as appropriate if exposure limit values of toxic substances are exceeded or in a poorly ventilated environment.

Thermal hazard
not available

Environmental exposure controls
Observe usual measures for protection of the environment, see Section 6.2.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| Appearance | liquid at 20 °C |
| Physical state | liquid |
| Color | clear / colourless |
| Odour | characteristic, mildly alcoholic |
| Odour threshold | data not available |
| pH | data not available |
| Melting point/freezing point | data not available |
| Initial boiling point and boiling range | 78°C |
Flash point: >24°C
Evaporation rate: data not available
Flammability (solid, gas): data not available
Upper/lower flammability or explosive limits:
flammability limits: data not available
explosive limits: data not available
Vapour pressure: data not available
Vapour density: data not available
Relative density: data not available
Solubility in water: data not available
solubility in fats: data not available
Partition coefficient: n-octanol/water: log Pow: -0.349 (ethanol)
Auto-ignition temperature: 363.0 °C (ethanol)
Decomposition temperature: data not available
Viscosity: data not available
Explosive properties: no explosive properties
Oxidising properties: no oxidative properties

SECTION 10: Stability and reactivity
10.1. Reactivity
Can react with alkali metals, strong acids / alkalis and oxidative compounds.

10.2. Chemical stability
Mixture is chemically stable under normal conditions of storage and manipulation. Overheating may cause thermal decomposition.

10.3. Possibility of hazardous reactions
Hazardous exothermic reactions possible with strong oxidative compounds, acids and alkalis.

10.4. Conditions to avoid
The product is stable and no degradation occurs under normal use. Protect against flames, sparks, overheating and against frost.

10.5. Incompatible materials
Alkali metals, strong oxidative compounds, acids and alkalis.

10.6. Hazardous decomposition products
Not developed under normal uses. Dangerous products are formed at high temperature and in fire, such as carbon monoxide and carbon dioxide, heavy smoke and nitrogen oxides.

SECTION 11: Toxicological information
11.1. Information on toxicological effects
No toxicological data is available for the mixture

Acute toxicity

<table>
<thead>
<tr>
<th>Route of exposure</th>
<th>Parameter</th>
<th>Value</th>
<th>Time of exposure</th>
<th>Species</th>
<th>Sex</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
<td>LD50</td>
<td>10470 mg/kg</td>
<td></td>
<td>Rat</td>
<td></td>
</tr>
<tr>
<td>Inhalation</td>
<td>LC50</td>
<td>30000 mg/l</td>
<td>4 h</td>
<td>Rat</td>
<td></td>
</tr>
<tr>
<td>Dermal</td>
<td>LD50</td>
<td>15800 mg/kg</td>
<td>4 h</td>
<td>Rabbit</td>
<td></td>
</tr>
</tbody>
</table>

Skin corrosion/irritation
Based on available data, the classification criteria are not met. Prolonged or repeated skin contact may cause removal of natural fat from the skin resulting in dermatitis (skin inflammation). However, these effects are not reason for classification.

Serious eye damage/irritation
Based on available data, the classification criteria are not met. Direct splashes may cause feelings of irritation, redness and blurred vision. However, these effects are not reason for classification.

Respiratory or skin sensitisation
Based on available data, the classification criteria are not met. Compounds have no sensitizing potential.

Germ cell mutagenicity
Based on available data, the classification criteria are not met. Compounds have no potential for mutagenic activity.

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

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

**Toxicity for specific target organ - single exposure**
Based on available data, the classification criteria are not met. Inhalation of liquid or gases in high concentration can cause severe respiratory irritation. However, these effects are not reason for classification.

**Toxicity for specific target organ - repeated exposure**
Based on available data the classification criteria are not met.

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

### SECTION 12: Ecological information

#### 12.1. Toxicity

**Acute toxicity**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
<th>Time of exposure</th>
<th>Species</th>
<th>Environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC50</td>
<td>5012 mg/l</td>
<td>48 h</td>
<td>aquatic invertebrates (Ceriodaphnia dubia)</td>
<td></td>
</tr>
<tr>
<td>LC50</td>
<td>14200 mg/l</td>
<td>96 h</td>
<td>fishes (Pimephales promelas)</td>
<td></td>
</tr>
<tr>
<td>NOEC</td>
<td>9,6 mg/l</td>
<td>9 days</td>
<td>aquatic invertebrates (Daphnia magna)</td>
<td></td>
</tr>
<tr>
<td>EC50</td>
<td>275 mg/l</td>
<td>72 h</td>
<td>algae (Chlorella vulgaris)</td>
<td></td>
</tr>
</tbody>
</table>

**Ethanol**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
<th>Time of exposure</th>
<th>Species</th>
<th>Environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC50</td>
<td>5012 mg/l</td>
<td>48 h</td>
<td>aquatic invertebrates (Ceriodaphnia dubia)</td>
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<tr>
<td>LC50</td>
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<tr>
<td>EC50</td>
<td>275 mg/l</td>
<td>72 h</td>
<td>algae (Chlorella vulgaris)</td>
<td></td>
</tr>
</tbody>
</table>

#### 12.2. Persistence and degradability
No data for the mixture. The mixture is readily biodegradable.

#### 12.3. Bioaccumulative potential
No data for the mixture. Based on composition, no bioaccumulation effects are expected.

**Ethanol**

\[ \log P_{ow} = -0.349 \text{ (24°C)} \]

#### 12.4. Mobility in soil
The product is soluble and mobile in water and soil. Contamination of water courses may occur in case of rain.

#### 12.5. Results of PBT and vPvB assessment
Results of PBT and vPvB assessment: PBT/vPvB assessment not available as chemical safety assessment not required/not conducted; the substance is not included in the Candidate List of SVHC.

#### 12.6. Other adverse effects
Not known

### SECTION 13: Disposal considerations

Hazard of environmental contamination; remove waste in accordance with local and/or national regulations.

#### 13.1. Waste treatment methods
Proceed in accordance with valid regulations on waste disposal. Any unused product and contaminated packaging should be put in labelled containers for waste collection and submitted for disposal to an authorised person for waste removal (specialized company) authorised for such activity. Do not empty unused product in drainage systems. The product must not be disposed of with municipal waste. Empty containers may be used at waste incinerators to produce energy or deposited in a dump with appropriate classification. Perfectly cleaned containers can be submitted for recycling.

**Legislation of waste**

### SECTION 14: Transport information
The mixture is classified as dangerous for transport according to ADR/RID/IMDG/ICAO/IATA.

#### 14.1. UN number
UN 1170
14.2. **UN proper shipping name**

<table>
<thead>
<tr>
<th>Road transport ADR</th>
<th>Rail transport RID</th>
<th>International maritime transport IMDG</th>
<th>Air transport ICAO/IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>ETHANOL SOLUTION (ethyl alcohol solution)</td>
<td>ETHANOL SOLUTION (ethyl alcohol solution)</td>
<td>ETHANOL SOLUTION (ethyl alcohol solution)</td>
<td>ETHANOL SOLUTION (ethyl alcohol solution)</td>
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</table>

14.3. **Transport hazard class(es)**

<table>
<thead>
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<th>Rail transport RID</th>
<th>International maritime transport IMDG</th>
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<tbody>
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**Classification code**

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**Hazard identification number (Kemler)**

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</tbody>
</table>

**Labels**

![Label 1](image1)

![Label 2](image2)

![Label 3](image3)

![Label 4](image4)

**Other remarks**

Limited and excepted quantities: E1 (5l)  
Transport category: 3  
Tunnel restriction code: D/E

Limited and excepted quantities: E1 (5l)  
Transport category: 3  
Tunnel restriction code: D/E

EMS No.: F-E, S-D  
Marine pollutant: no

14.4. **Packing group**

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<thead>
<tr>
<th>Road transport ADR</th>
<th>Rail transport RID</th>
<th>International maritime transport IMDG</th>
<th>Air transport ICAO/IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>III</td>
<td>III</td>
<td>III</td>
<td>III</td>
</tr>
</tbody>
</table>

14.5. **Environmental hazards**

**no**

14.6. **Special precautions for user**

Not required

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

Not transported

**SECTION 15: Regulatory information**

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


15.2. **Chemical safety assessment**

not available
SAFETY DATA SHEET

according to Regulation (EC) No 1907/2006 (REACH) as amended

SpermFlowEx Kit

Date of creation 22 December 2015
Date of revision 23 August 2019
Version 4

SECTION 16: Other information

Changes made to the previous version of the safety data sheet
Removed trademark from the name

A list of standard risk phrases used in the safety data sheet
H225 Flammable liquid, category 2
H319 Serious eye damage/eye irritation, category 2

Other important information about human health protection
The product must not be - unless specifically approved by the manufacturer/importer - used for purposes other than as per Section 1. The user is responsible for adherence to all related health protection regulations.

Key to abbreviations and acronyms used in the safety data sheet
ADR European agreement concerning the international carriage of dangerous goods by road
BCF Bioconcentration Factor
CAS Chemical Abstract Service
CLP Regulation (EC) No 1272/2008 on classification, labelling and packaging of substance and mixtures
DNEL Derived no-effect level
EC50 Concentration of a substance when it is affected 50% of the population
EINECS European Inventory of Existing Commercial Chemical Substances
EMS Emergency plan
ES Identification code for each substance listed in EINECS
EU European Union
IATA International Air Transport Association
IBC International Code For The Construction And Equipment of Ships Carrying Dangerous Chemicals
IC50 Concentration causing 50 % blockade
ICAO International Civil Aviation Organization
IMDG International Maritime Dangerous Goods Transport
INCI International Nomenclature of Cosmetic Ingredients
ISO International Organization for Standardization
IUPAC International Union of Pure and Applied Chemistry
LC50 Lethal concentration of a substance in which it can be expected death of 50% of the population
LD50 Lethal dose of a substance in which it can be expected death of 50% of the population
LOAEC Lowest observed adverse effect concentration
LOAEL Lowest observed adverse effect level
Log Kow Octanol-water partition coefficient
MARPOL International Convention for the Prevention of Pollution From Ships
MFAG First Aid Manual
NOAEC No observed adverse effect concentration
NOAEL No observed adverse effect level
NOEC No observed effect concentration
NOEL No observed effect level
OEL Occupational Exposure Limits
PBT Persistent, Bioaccumulative and Toxic
PEL Permissible Exposure Limit
PNEC Predicted no-effect concentration
PPM Parts per million
RID Agreement on the transport of dangerous goods by rail
UN Four-figure identification number of the substance or article taken from the UN Model Regulations
UVVCB Substances of unknown or variable composition, complex reaction products or biological materials
VOC Volatile organic compounds
vPvB Very Persistent and very Bioaccumulative
SAFETY DATA SHEET

according to Regulation (EC) No 1907/2006 (REACH) as amended

SpermFlowEx Kit

<table>
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<th>Version</th>
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<tbody>
<tr>
<td>Date of revision</td>
<td>23 August 2019</td>
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<td></td>
</tr>
</tbody>
</table>

W/W  Weight by weight
Acute. Tox.  Acute toxicity
Aquatic  Chronic  Hazardous to the aquatic environment
STOT RE  Specific target organ toxicity - repeated exposure

Training guidelines
Inform the personnel about the recommended ways of use, mandatory protective equipment, first aid and prohibited ways of handling the product.

Recommended restrictions of use
not available

Information about data sources used to compile the Safety Data Sheet
Publication of "Zásady pro poskytování první pomoci při expozici chemickým látkám" (doc. MUDr. Daniela Pelclová, CSc., MUDr. Alexandr Fuchs, CSc., MUDr. Miroslava Hornychová, CSc., MUDr. Zdeňka Trávníčková, CSc., Jiřina Fridrichovská, prom. chem.). Data from the manufacturer of the substance / mixture, if available - information from registration dossiers.

Statement
The safety data sheet provides information aimed at ensuring safety and health protection at work and environmental protection. The provided information corresponds to the current status of knowledge and experience and complies with valid legal regulations. The information should not be understood as guaranteeing the suitability and usability of the product for a particular application.