

**SAFETY DATA SHEET**

Safety Data Sheet according to (EC) No. 1907/2006.

**1. Identification of the substance/preparation and of the company/undertaking**

Identification of the substance or preparation:

**Solution 4 - VitaBright-48**

Use of the substance/preparation:

Preparation for research and analysis.

Company/undertaking identification:

ChemoMetec A/S

Gydevang 43 Phone.: (+45) - 48 13 10 20

DK - 3450 Alleroed Fax: (+45) - 48 13 10 21

Denmark e-mail: [contact@chemometec.com](mailto:contact@chemometec.com)

Emergency telephone Denmark:

(+45) - 48 13 10 20

Responsible for Safety Data Sheet (e-mail):

Peter Waksman, ALTox a/s ([pw@altox.dk](mailto:pw@altox.dk))**2. Hazards identification**

Irritating preparation with long term effects.

Classification:

Xi;R36/37/38

**3. Composition/Information on ingredients**

Contents: DMSO (&gt;99%) and various active ingredients below classification limit (&lt;0.1%)

% w/w	Name	CAS-no.	EINECS/ELINCS	Classification
> 99	Dimethyl Sulfoxide (DMSO)	67-68-5	200-664-3	Xi;R36/37/38
<0.1	VitaBright-48	-	-	*

\* Classification is not relevant, because the ingredients are well below the classification limit.

Wording of R-phrases - see section 15.

**4. First aid measures****Inhalation:**Move the affected person to fresh air. **Mild cases:** Keep at rest. If needed: Get medical attention. **Serious cases:** Place the person in recovery position and keep warm. If respiration has stopped, administer artificial respiration. Seek medical advice immediately.**Skin contact:**

Remove contaminated clothing and wash skin with water and mild soap. If irritation persists: Seek medical advice.

**Eye contact:**

Immediately flush with water or physiological salt water for at least 15 minutes, holding eye lids open, remember to remove contact lenses, if any. If irritation persists: Seek medical advice.

**Ingestion:**Rinse mouth and drink plenty of water. **Do not induce vomiting.** If vomiting occurs keep head down to avoid vomit in the lungs. Seek medical advice.**Burning:**

Flush with water until pain ceases. Remove cloth that isn't burnt to the skin. If needed seek medical attention, continue to flush on the way.

**Information:**

Show this Safety Data Sheet to a physician or emergency ward.

**5. Fire-fighting measures****Precautions against fire:**

Do not breathe smoke fumes. Remove containers if possible.

**Suitable extinguishing media:**

Use water spray, carbon dioxide, dry chemical or foam.

**Hazardous combustion or decomposition products:**

In case of fire the product may form hazardous decomposition products such as oxides of carbon and sulphur.

**Protective equipment:**

When entering burning area: Wear self contained breathing apparatus.

## Solution 4 - VitaBright-48

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### 6. Accidental release measures

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**Personal precautions:**

Use personal protective equipment - see section 8. Ventilate area of leak or spill.

**Environmental precautions:**

Do not empty into drains - see section 12. Inform appropriate authorities in accordance with local regulations.

**Methods for cleaning up:**

Absorb spilled liquid with inert material and place in a suitable container for disposal. Flush area of spill with plenty of water. Further handling of spillage - see section 13.

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### 7. Handling and storage

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**Safe storage:**

Store in an airtight container at a temperature below 5°C. Keep in a dry place protected from light and moisture. Storage must be in compliance with all regulatory requirements pertaining to flammable liquids.

**Specific use(s):**

See section 1.

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### 8. Exposure controls/personal protection

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**Engineering measures (prevention of worker exposure):**

Avoid breathing vapours. Provide adequate ventilation. Avoid contact with skin, eyes and clothing. There shall be access to water, eye wash fountain and emergency shower. Wash with plenty of water and soap after end use.

The employer shall assess the working conditions and, if there is any risk to the safety or health and any effects on the pregnancy or breastfeeding of workers, take the necessary measures to adjust the working conditions (Directive 92/85/EEC).

**Exposure limits (Denmark):**

50 ppm = 160 mg/m<sup>3</sup> (DMSO).

**Personal protective equipment:****Respiratory protection:**

In case of working in not adequate ventilated areas, use an approved mask with a gas filter: A/P2. The filter has a limited lifetime and must be changed. Read the instruction.

**Skin protection:**

Wear protective gloves of butyl rubber. Breakthrough time: Approximately 3 hours.

**Eye protection:**

Wear safety goggles.

**Environmental exposure controls:**

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### 9. Physical and chemical properties

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<b>Appearance:</b>	Colorless/Slightly yellow liquid
<b>Odour:</b>	Odourless
<b>pH:</b>	-
<b>Flash point (°C):</b>	~ 87
<b>Boiling point (°C):</b>	~ 189
<b>Melting point (°C):</b>	~ 18,4
<b>Vapour pressure (hPa) v/20°C:</b>	~ 0,55
<b>Solubility in water (mg/ml):</b>	Completely miscible
<b>Specific density (g/cm<sup>3</sup>) 20°C:</b>	~ 1.1

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### 10. Stability and reactivity

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**Stability:**

Stable under the recommended storage conditions (see section 7).

**Conditions to avoid:**

Excessive heating

**Materials to avoid:**

Acid chlorides, phosphorus halides, strong acids, strong oxidising/reducing agents.

**Hazardous decomposition products:**

Combustion may produce oxides of carbon and sulphur.

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### 11. Toxicological information

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**Routes of exposure:**

Skin, lungs and gastrointestinal tract.

**Acute toxicity:****Inhalation:**

Vapours may cause irritation to the airways. Inhalation of larger amounts may induce discomfort, nausea, dizziness, headache, narcosis and unconsciousness.

**Skin:**

Causes irritation with redness and degreasing of the skin. DMSO may be absorbed through skin and may facilitate the absorption of other compounds.

**Eyes:**

Irritation with redness, pain and blurred vision.

**Ingestion:**

Ingestion may irritate the mouth, throat and stomach. Ingestion of larger amounts may induce the same symptoms as if inhaled.

**Long term toxicity:**

Prolonged or frequent exposure to vapours of volatile organic compounds may result in damage on liver, kidneys, blood or central nervous system. Prolonged or frequent contact can cause eczema and inflammation of the skin as a result of degreasing.

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### 12. Ecological information

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**Ecotoxicity:**

DMSO has a very low toxicity to aquatic organisms. LC<sub>50</sub> (fish, 96h): 33-37 g/l.

**Mobility:**

DMSO is completely miscible with water and will spread quickly in the aquatic environment.

**Persistence and degradability:**

DMSO is readily biodegradable.

**Bioaccumulative potential:**

DMSO: logK<sub>ow</sub> < 1 – no bioaccumulation is expected

**Other adverse effects:**

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### 13. Disposal considerations

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Disposal should be according to local, state or national legislation. Dispose of through authority facilities or pass to chemical disposal company.

**EWC-Code:**

16 05 08

15 02 02 (absorbents, filter materials, wiping cloths, protective clothing contaminated by dangerous substances)

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### 14. Transport information

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Not dangerous goods.

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## 15. Regulatory information

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EC-no.: 200-664-3

Danger symbol:



Irritant

**Content:** Dimethyl Sulfoxide

**Risk- and Safety-phrases:**

R 36/37/38: Irritating to eyes, respiratory system and skin.

S 26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 37: Wear suitable gloves.

**Restriction on application:**

Must not be used by persons under 18 years of age.

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## 16. Other information

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**R-phrases mentioned in section 2 & 3:**

See section 15.

**Special training:**

No special training is required. However, the user should be well instructed in the execution of his task and be familiar with this safety data sheet.

**Other information:**

The Safety Data Sheet is prepared according to REACH regulation (EC) No. 1907/2006.

**Edition No.:**

1

**Date (revision):**

19 June 2009

**Changes in section(s):**

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Prepared by: ALTox a/s - Godthaabsvej 177 - 2720 Vanløse - Tel. +45 - 38 34 77 98 - Fax: +45 - 38 34 77 99 / PW - Quality control: SNS