

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

#### 1.1. Product identifier

Product form : Mixture  
Name : CryoStor CS2; CryoStor CS5

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

##### 1.2.1. Relevant identified uses

Industrial/Professional use spec : Industrial, for professional use only.  
Use of the substance/mixture : Ultra-low temperature storage of biological material.

##### 1.2.2. Uses advised against

Restrictions on use : Any use not specified.

#### 1.3. Details of the supplier of the safety data sheet

BioLife Solutions, Inc.  
3303 Monte Villa Parkway  
Suite 310  
Bothell, WA 98021 United States of America  
Tel.: +1 (425) 402-1400 (Monday - Friday, 8:00 am - 5:00 pm Pacific)  
Email: info@biolifesolutions.com

*For Distributor Use Only*

#### 1.4. Emergency telephone number

Emergency number : +1 (866) 424-6543 (Monday - Friday, 8:00 am - 5:00 pm Pacific)

Country	Organisation/Company	Address	Emergency number	Comment
Ireland	National Poisons Information Centre Beaumont Hospital	PO Box 1297 Beaumont Road 9 Dublin	+353 1 809 2566 (Healthcare professionals-24/7) +353 1 809 2166 (public, 8am - 10pm, 7/7)	
United Kingdom	National Poisons Information Service (Birmingham Centre) City Hospital	Dudley Road B18 7QH	0344 892 0111	Only for healthcare professionals
United Kingdom	National Poisons Information Service (Cardiff Centre) University Hospital Llandough	Penlan Road CF64 2XX	0344 892 0111	Only for healthcare professionals
United Kingdom	National Poisons Information Service (Edinburgh Centre) Royal Infirmary of Edinburgh	Little France Crescent EH16 4SA	0344 892 0111	Only for healthcare professionals
United Kingdom	Guy's & St Thomas' Poisons Unit Medical Toxicology Unit, Guy's & St Thomas' Hospital Trust	Avonley Road SE14 5ER	+44 20 7188 7188	
United Kingdom	National Poisons Information Service (Newcastle Centre) Regional Drugs and Therapeutics Centre	16/17 Framlington Place Newcastle-upon-Tyne NE2 4AB	0344 892 0111	Only for healthcare professionals
United Kingdom	National Poisons Information Service (Belfast Centre) Royal Victoria Hospital	Grosvenor Road BT12 6BA	0344 892 0111	Only for healthcare professionals

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### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Skin corrosion/irritation, Category 2 H315

Serious eye damage/eye irritation, Category 2 H319

Full text of H- and EUH-statements: see section 16

##### Adverse physicochemical, human health and environmental effects

Causes skin irritation. Causes serious eye irritation.

#### 2.2. Label elements

##### Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS07

Signal word (CLP) :

Warning

Hazard statements (CLP) :

H315 - Causes skin irritation.

H319 - Causes serious eye irritation.

Precautionary statements (CLP) :

P264 - Wash hands, forearms and face thoroughly after handling.

P280 - Wear protective gloves, protective clothing, eye protection, face protection.

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.

P332+P313 - If skin irritation occurs: Get medical advice/attention.

P337+P313 - If eye irritation persists: Get medical advice/attention.

P362+P364 - Take off contaminated clothing and wash it before reuse.

#### 2.3. Other hazards

Other hazards not contributing to the classification : Exposure may aggravate pre-existing eye, skin, or respiratory conditions. DMSO easily penetrates the skin, and may increase the rate of skin absorption of skin-permeable substances.

Contains no PBT and/or vPvB substances  $\geq 0.1\%$  assessed in accordance with REACH Annex XIII.

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or substance(s) are not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %.

### SECTION 3: Composition/information on ingredients

#### 3.1. Substances

Not applicable.

#### 3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Dimethyl sulfoxide (DMSO) substance with national workplace exposure limit(s) (AT, DK, EE, FI, DE, LT, SI, SE)	CAS-No.: 67-68-5 EC-No.: 200-664-3	3 – 10	Not classified
Sucrose substance with national workplace exposure limit(s) (BE, FR, IE, LT, PT, ES, GB)	CAS-No.: 57-50-1 EC-No.: 200-334-9	0.1 – 1	Not classified

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Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Sodium hydroxide substance with national workplace exposure limit(s) (AT, BE, BG, HR, CZ, DK, EE, FI, FR, GR, HU, IE, LV, LT, PL, PT, SK, SI, ES, SE, GB)	CAS-No.: 1310-73-2 EC-No.: 215-185-5 EC Index-No.: 011-002-00-6	0.1 – 1	Met. Corr. 1, H290 Skin Corr. 1A, H314 Eye Dam. 1, H318
Potassium hydroxide substance with national workplace exposure limit(s) (AT, BE, BG, HR, CZ, DK, EE, FI, FR, GR, HU, IE, PL, PT, ES, SE, GB)	CAS-No.: 1310-58-3 EC-No.: 215-181-3 EC Index-No.: 019-002-00-8	0.168	Acute Tox. 4 (Oral), H302 Skin Corr. 1A, H314

### Specific concentration limits:

Name	Product identifier	Specific concentration limits
Sodium hydroxide	CAS-No.: 1310-73-2 EC-No.: 215-185-5 EC Index-No.: 011-002-00-6	(0.5 ≤ C < 2) Eye Irrit. 2; H319 (0.5 ≤ C < 2) Skin Irrit. 2; H315 (2 ≤ C < 5) Skin Corr. 1B; H314 (5 ≤ C < 100) Skin Corr. 1A; H314
Potassium hydroxide	CAS-No.: 1310-58-3 EC-No.: 215-181-3 EC Index-No.: 019-002-00-8	(0.5 ≤ C < 2) Eye Irrit. 2; H319 (0.5 ≤ C < 2) Skin Irrit. 2; H315 (2 ≤ C < 5) Skin Corr. 1B; H314 (5 ≤ C ≤ 100) Skin Corr. 1A; H314

Chemical name, CAS number and/or exact concentration have been withheld as confidential business information.

Full text of H- and EUH-statements: see section 16.

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures general	: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. Allow affected person to breathe fresh air. Allow the victim to rest.
First-aid measures after skin contact	: Wash skin with plenty of water. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
First-aid measures after eye contact	: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if pain, blinking or redness persists.
First-aid measures after ingestion	: Rinse mouth. Do NOT induce vomiting. Call a poison center or a doctor if you feel unwell.

### 4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects	: Exposure may aggravate pre-existing eye, skin, or respiratory conditions.
Symptoms/effects after inhalation	: None under normal conditions.
Symptoms/effects after skin contact	: Causes skin irritation. DMSO easily penetrates the skin, and may increase the rate of skin absorption of skin-permeable substances.
Symptoms/effects after eye contact	: Causes serious eye irritation.
Symptoms/effects after ingestion	: None under normal conditions.

### 4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media	: Water spray. Dry powder. Foam. Carbon dioxide. Sand.
Unsuitable extinguishing media	: Do not use a heavy water stream.

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### 5.2. Special hazards arising from the substance or mixture

- Fire hazard : The product is not flammable.
- Explosion hazard : Product is not explosive.
- Hazardous decomposition products in case of fire : Toxic fumes may be released.

### 5.3. Advice for firefighters

- Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. Self-contained breathing apparatus. Complete protective clothing. EN 469.

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## SECTION 6: Accidental release measures

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### 6.1. Personal precautions, protective equipment and emergency procedures

- General measures : Stop leak if safe to do so. Absorb spillage to prevent material damage. Notify authorities if product enters sewers or public waters.

#### 6.1.1. For non-emergency personnel

- Protective equipment : Wear recommended personal protective equipment.
- Emergency procedures : Evacuate unnecessary personnel. Ventilate spillage area.

#### 6.1.2. For emergency responders

- Protective equipment : Do not attempt to take action without suitable protective equipment. Equip cleanup crew with proper protection. For further information refer to section 8: "Exposure controls/personal protection".
- Emergency procedures : Evacuate unnecessary personnel. Stop leak if safe to do so. Ventilate area.

### 6.2. Environmental precautions

Avoid release to the environment. Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

### 6.3. Methods and material for containment and cleaning up

- For containment : Stop leak without risks if possible. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Absorb spilled material with sand or earth.
- Methods for cleaning up : Take up liquid spill into absorbent material. Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.
- Other information : Dispose of materials or solid residues at an authorized site.

### 6.4. Reference to other sections

For further information refer to section 13. See Section 8. Exposure controls and personal protection.

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## SECTION 7: Handling and storage

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### 7.1. Precautions for safe handling

- Precautions for safe handling : Wear personal protective equipment. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.
- Hygiene measures : Do not eat, drink or smoke when using this product. Wash hands, forearms and face thoroughly after handling.

### 7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Keep container closed when not in use. Keep cool. Protect from sunlight.
- Incompatible materials : Strong acids, strong bases, strong oxidizers. Strong reducing agents. Halogenated organic and mineral acids. Methyl bromide. Sodium hydride. Halides. Metal salts of oxoacids. Metal salts. Zinc. Steel. Some plastics. Acid chlorides. Boron compounds. Maleic anhydride. Water reactive materials. Sources of ignition. Direct sunlight. Heat sources.
- Storage temperature : 2 – 8 °C
- Packaging materials : Always store product in container of same material as original container.
- Storage class (LGK) : LGK 12 - Non-combustible liquids
- Joint storage not permitted for : LGK 1, LGK 6.2, LGK 7
- Joint storage with restrictions permitted for : LGK 4.1A, LGK 4.3, LGK 5.1C



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Joint storage permitted for : LGK 2A, LGK 2B, LGK 3, LGK 4.1B, LGK 4.2, LGK 5.1A, LGK 5.1B, LGK 5.2, LGK 6.1A, LGK 6.1B, LGK 6.1C, LGK 6.1D, LGK 8A, LGK 8B, LGK 10, LGK 11, LGK 12, LGK 13, LGK 10-13

### 7.3. Specific end use(s)

Reagent.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### 8.1.1 National occupational exposure and biological limit values

Dimethyl sulfoxide (DMSO) (67-68-5)	
<b>Austria - Occupational Exposure Limits</b>	
Local name	Dimethylsulfoxid
MAK (mg/m <sup>3</sup> )	160 mg/m <sup>3</sup>
MAK (OEL TWA)	50 ppm
Remark (AT)	(H)
Regulatory reference	BGBl. II Nr. 330/2024
<b>Denmark - Occupational Exposure Limits</b>	
Local name	Dimethylsulfoxid
Grænseværdi (8 timer) (mg/m <sup>3</sup> )	160 mg/m <sup>3</sup>
Grænseværdi (8 timer) (ppm)	50 ppm
Grænseværdi (STEL) (mg/m <sup>3</sup> )	320 mg/m <sup>3</sup>
Grænseværdi (STEL) (ppm)	100 ppm
Regulatory reference	BEK nr 1619 af 19/12/2024
<b>Estonia - Occupational Exposure Limits</b>	
Local name	Dimetüülsulfoksiid (DMSO)
OEL TWA	150 mg/m <sup>3</sup>
OEL TWA	50 ppm
OEL STEL	500 mg/m <sup>3</sup>
OEL STEL	150 ppm
Remark	A (Naha kaudu kergesti imenduv aine)
Regulatory reference	Vabariigi Valitsuse 20. märtsi 2001. a määruse nr 105 (RT I, 02.04.2024, 13)
<b>Finland - Occupational Exposure Limits</b>	
Local name	Dimetyylisulfoksidi
HTP-arvo (8h) (ppm)	50 ppm
Remark	Iho
Regulatory reference	HTP-ARVOT 2025 (Sosiaali- ja terveystieteiden ministeriö)
<b>Germany - Occupational Exposure Limits (TRGS 900)</b>	
Local name	Dimethylsulfoxid (DMSO)
Occupational exposure limit value (mg/m <sup>3</sup> )	160 mg/m <sup>3</sup>
Occupational exposure limit value (ppm)	50 ppm
Peak exposure limitation factor	2(l)

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<b>Dimethyl sulfoxide (DMSO) (67-68-5)</b>	
Remark	DFG - Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe der DFG (MAK-Kommission); Z - Ein Risiko der Fruchtschädigung kann auch bei Einhaltung des AGW und des BGW nicht ausgeschlossen werden; H - hautresorptiv
Regulatory reference	TRGS900
<b>Lithuania - Occupational Exposure Limits</b>	
Local name	Dimetilsulfoksidas
IPRV (mg/m <sup>3</sup> )	150 mg/m <sup>3</sup>
IPRV (OEL TWA)	50 ppm
TPRV (mg/m <sup>3</sup> )	500 mg/m <sup>3</sup>
TPRV (ppm)	150 ppm
Remark	O (medžiaga į organizmą gali prasiskverbti pro nepažeistą odą)
Regulatory reference	LIETUVOS HIGIENOS NORMA HN 23:2011 (Nr. V-695/A1-272, 2018-06-12)
<b>Slovenia - Occupational Exposure Limits</b>	
Local name	Dimetilsulfoksid
OEL TWA	160 mg/m <sup>3</sup>
OEL TWA	50 ppm
OEL STEL	320 mg/m <sup>3</sup>
OEL STEL	100 ppm
Remark	K (Lastnost lažjega prehajanja snovi v organizem skozi kožo)
Regulatory reference	Uradni list RS, št. 26/2025 z dne 18.4.2025 - Pravilnik o varovanju delavcev pred tveganji zaradi izpostavljenosti kemičnim snovem pri delu
<b>Sweden - Occupational Exposure Limits</b>	
Local name	Dimetylsulfoxid
Nivågränsvärde (NVG) (mg/m <sup>3</sup> )	150 mg/m <sup>3</sup>
Nivågränsvärde (NVG) (ppm)	50 ppm
Kortidsvärde (KTV) (mg/m <sup>3</sup> )	500 mg/m <sup>3</sup>
Kortidsvärde (KTV) (ppm)	150 ppm
Remark	H (Ämnet tas lätt upp genom huden. Gränsvärdet bedöms ge tillräckligt skydd om huden är skyddad); V (Vägledande kortidsgränsvärde som ska användas som ett rekommenderat högsta värde som inte bör överskridas)
Regulatory reference	Arbetsmiljöverkets föreskrifter och allmänna råd (AFS 2023:14) om gränsvärden för luftvägsexponering i arbetsmiljön
<b>North Macedonia - Occupational Exposure Limits</b>	
Local name	диметилсулфоксид
OEL TWA	160 mg/m <sup>3</sup>
Remark	(K) својство на полесно пренесување на супстанците во организмот преку кожата
Regulatory reference	Правилник за минималните барања за безбедност и здравје при работа на вработени од ризици поврзани со изложување на хемиски супстанции („Службен весник на Република Македонија“ бр.46/10)
<b>Switzerland - Occupational Exposure Limits</b>	
Local name	Diméthylsulfoxyde (DMSO) / Dimethylsulfoxid (DMSO)
VME [mg/m <sup>3</sup> ]	160 mg/m <sup>3</sup>

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<b>Dimethyl sulfoxide (DMSO) (67-68-5)</b>	
MAK (ppm)	50 ppm
KZGW (mg/m <sup>3</sup> )	320 mg/m <sup>3</sup>
KZGW (ppm)	100 ppm
Notation	R / H
Regulatory reference	www.suva.ch, 18.06.2025
<b>Sucrose (57-50-1)</b>	
<b>Belgium - Occupational Exposure Limits</b>	
Limit value [mg/m <sup>3</sup> ]	10 mg/m <sup>3</sup>
<b>France - Occupational Exposure Limits</b>	
Local name	Saccharose
VME [mg/m <sup>3</sup> ]	10 mg/m <sup>3</sup>
Note (FR)	Valeurs recommandées/admises
Regulatory reference	Circulaire du Ministère du travail (réf.: INRS ED 6443, 2022; Outil65)
<b>Ireland - Occupational Exposure Limits</b>	
OEL (8 hours ref) (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
OEL (15 min ref) (mg/m <sup>3</sup> )	20 mg/m <sup>3</sup>
<b>Lithuania - Occupational Exposure Limits</b>	
IPRV (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
<b>Portugal - Occupational Exposure Limits</b>	
Local name	Sacarose
OEL TWA (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
Remark	A4 (Agente não classificável como carcinogénico no Homem)
Regulatory reference	Norma Portuguesa NP 1796:2014
<b>Spain - Occupational Exposure Limits</b>	
Local name	Sacarosa
VLA-ED (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
Regulatory reference	Límites de Exposición Profesional para Agentes Químicos en España 2024. INSHT
<b>United Kingdom - Occupational Exposure Limits</b>	
WEL TWA (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
WEL STEL (mg/m <sup>3</sup> )	20 mg/m <sup>3</sup>
<b>USA - ACGIH - Occupational Exposure Limits</b>	
Local name	Sucrose
ACGIH TWA (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
Remark (ACGIH®)	Dental erosion
Regulatory reference	ACGIH 2023
<b>Sodium hydroxide (1310-73-2)</b>	
<b>Austria - Occupational Exposure Limits</b>	
Local name	Natriumhydroxid (Ätznatron)

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<b>Sodium hydroxide (1310-73-2)</b>	
MAK [mg/m <sup>3</sup> ]	2 mg/m <sup>3</sup> (E)
MAK Short time value [mg/m <sup>3</sup> ]	4 mg/m <sup>3</sup> (E, 8x 5(Mow) min)
Regulatory reference	BGBl. II Nr. 330/2024
<b>Belgium - Occupational Exposure Limits</b>	
Local name	Sodium (hydroxyde de) # Natriumhydroxide
Limit value [mg/m <sup>3</sup> ]	2 mg/m <sup>3</sup>
Remark (BE)	M: la mention "M" indique que lors d'une exposition supérieure à la valeur limite, des irritations apparaissent ou un danger d'intoxication aiguë existe. Le procédé de travail doit être conçu de telle façon que l'exposition ne dépasse jamais la valeur limite. Lors des mesurages, la période d'échantillonnage doit être aussi courte que possible afin de pouvoir effectuer des mesurages fiables. Le résultat des mesurages est calculé en fonction de la période d'échantillonnage. # M: de vermelding "M" duidt aan dat bij de blootstelling boven de grenswaarde irritatie optreedt of er gevaar bestaat voor acute vergiftiging. Het werkproces moet zo zijn ontworpen dat de blootstelling de grenswaarde nooit overschrijdt. Bij een controle geldt dat de bemonsterde periode zo kort mogelijk moet zijn om een betrouwbare meting te kunnen verrichten. Het meetresultaat wordt dan gerelateerd aan de beschouwde periode.
Regulatory reference	Koninklijk besluit/Arrêté royal 16/11/2023
<b>Bulgaria - Occupational Exposure Limits</b>	
Local name	Натриева основа
OEL TWA (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup> (алкални аерозоли)
Remark	• (Химични агенти, за които са определени гранични стойности във въздуха на работната среда за Европейската общност)
Regulatory reference	Наредба № 13 от 30.12.2003 г. за защита на работещите от рискове, свързани с експозиция на химични агенти при работа (изм. и доп. ДВ. бр. 28 от 2024 г., в сила от 05.04.2024 г.)
<b>Croatia - Occupational Exposure Limits</b>	
Local name	Natrijev hidroksid; kaustična soda
KGVI (OEL STEL)	2 mg/m <sup>3</sup>
Regulatory reference	Pravilnik o zaštiti radnika od izloženosti opasnim kemikalijama na radu, граниčnim vrijednostima izloženosti i biološkim граниčnim vrijednostima (NN 148/2023)
<b>Czech Republic - Occupational Exposure Limits</b>	
Local name	Hydroxid sodný
Expoziční limity (PEL) (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup>
Expoziční limity (NPK-P) (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup>
Remark	I - dráždí sliznice (oči, dýchací cesty), resp. kůži.
Regulatory reference	Nařízení vlády č. 361/2007 Sb. (Předpis 20/2025 Sb.)
<b>Denmark - Occupational Exposure Limits</b>	
Local name	Natriumhydroxid
Grænseværdi (8 timer) (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup>
OEL C	2 mg/m <sup>3</sup>
Regulatory reference	BEK nr 1619 af 19/12/2024
<b>Estonia - Occupational Exposure Limits</b>	
Local name	Naatriumhüdoksiid

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Sodium hydroxide (1310-73-2)	
OEL TWA	1 mg/m <sup>3</sup>
OEL STEL	2 mg/m <sup>3</sup> lühiajalise kokkupuute piirnorm, arvatatud vieminutisele kokkupuuteajale
Regulatory reference	Vabariigi Valitsuse 20. märtsi 2001. a määruse nr 105 (RT I, 02.04.2024, 13)
Finland - Occupational Exposure Limits	
Local name	Natriumhüdrosiidi
HTP-arvo (15 min)	2 mg/m <sup>3</sup>
HTP (OEL C)	2 mg/m <sup>3</sup>
Regulatory reference	HTP-ARVOT 2025 (Sosiaali- ja tervetministeriö)
France - Occupational Exposure Limits	
Local name	Sodium (hydroxyde de) (Hydroxyde de sodium)
VME [mg/m <sup>3</sup> ]	2 mg/m <sup>3</sup>
VLE [mg/m <sup>3</sup> ]	2 mg/m <sup>3</sup>
Note (FR)	Valeurs recommandées/admises
Regulatory reference	Circulaire du Ministère du travail (réf.: INRS ED 6443, 2022; Outil65)
Greece - Occupational Exposure Limits	
Local name	Υδροξείδιο του νατρίου
OEL TWA (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup>
OEL STEL	2 mg/m <sup>3</sup>
Regulatory reference	Π.Δ. 90/1999 - Προστασία της υγείας των εργαζομένων που εκτίθενται σε ορισμένους χημικούς παράγοντες κατά τη διάρκεια της εργασίας τους
Hungary - Occupational Exposure Limits	
Local name	NÁTRIUM-HIDROXID
AK-érték	1 mg/m <sup>3</sup>
CK-érték	2 mg/m <sup>3</sup>
Remark	m (maró hatású anyag, amely felmarja a bőrt, nyálkahártyát, szemet vagy mindhármát); N (Irritáló anyagok, egyszerű fojtógázok, csekély egészségkárosító hatással bíró anyagok)
Regulatory reference	5/2020. (II. 6.) ITM rendelet - A kémiai kóroki tényezők hatásának kitett munkavállalók egészségének és biztonságának védelméről
Ireland - Occupational Exposure Limits	
Local name	Sodium hydroxide
OEL (15 min ref) (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup>
Remark	Advisory OELV (Advisory Occupational Exposure Limit Values)
Regulatory reference	Chemical Agents Code of Practice 2024
Latvia - Occupational Exposure Limits	
Local name	Nātrija hüdrosiids (nātrija sārms, kaustiskā soda)
OEL TWA	0.5 mg/m <sup>3</sup>
Regulatory reference	Ministru kabineta 2007. gada 15. maija noteikumiem Nr. 325 (Grozījumi Ministru kabineta 2024. gada 26. martā noteikumiem Nr. 191).
Lithuania - Occupational Exposure Limits	
Local name	Natrio hüdrosidas

# CryoStor CS2; CryoStor CS5

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

<b>Sodium hydroxide (1310-73-2)</b>	
NRV (OEL C)	2 mg/m <sup>3</sup>
Remark	Ū (ūmus poveikis)
Regulatory reference	LIETUVOS HIGIENOS NORMA HN 23:2011 (Nr. V-695/A1-272, 2018-06-12)
<b>Poland - Occupational Exposure Limits</b>	
Local name	Wodorotlenek sodu
NDS (mg/m <sup>3</sup> )	0.5 mg/m <sup>3</sup>
NDSch (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup>
Regulatory reference	Dz. U. 2024 poz. 1017 wraz z późn. zm.
<b>Portugal - Occupational Exposure Limits</b>	
Local name	Hidróxido de sódio
OEL C	2 mg/m <sup>3</sup>
OEL C	2 ppm
Regulatory reference	Norma Portuguesa NP 1796:2014
<b>Slovakia - Occupational Exposure Limits</b>	
Local name	Hydroxid sodný
NPHV (priemerná) (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup>
Regulatory reference	Nariadenie vlády č. 355/2006 Z. z. (122/2024 Z. z.)
<b>Slovenia - Occupational Exposure Limits</b>	
Local name	natrijev hidroksid
OEL TWA	2 mg/m <sup>3</sup>
OEL STEL	2 mg/m <sup>3</sup>
<b>Spain - Occupational Exposure Limits</b>	
Local name	Hidróxido de sodio
VLA-EC (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup>
Regulatory reference	Límites de Exposición Profesional para Agentes Químicos en España 2025. INSHT
<b>Sweden - Occupational Exposure Limits</b>	
Local name	Natriumhydroxid
Nivågränsvärde (NVG) (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup> (inhalerbar fraktion)
Kortidsvärde (KTV) (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup> (inhalerbar fraktion)
Remark	25 (Med inhalerbar och respirabel fraktion menas de dammfractioner som definieras i svensk standard SS-EN 481, Arbetsplatsluft – Partikelstorleksfraktioner för mätning av luftburna partiklar (utgåva 1, 1993). Med totaldamm menas de partiklar (aerosoler) som fastnar på ett filter i en totaldammprovtagare)
Regulatory reference	Arbetsmiljöverkets föreskrifter och allmänna råd (AFS 2023:14) om gränsvärden för luftvägsexponering i arbetsmiljön
<b>United Kingdom - Occupational Exposure Limits</b>	
Local name	Sodium hydroxide
WEL STEL (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup>
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE



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<b>Sodium hydroxide (1310-73-2)</b>	
<b>Iceland - Occupational Exposure Limits</b>	
Local name	Natriumhýdroxíð (vítissóti)
OEL STEL	2 mg/m <sup>3</sup>
Regulatory reference	Reglugerð um mengunarmörk og aðgerðir til að draga úr mengun á vinnustöðum (Nr. 390/2009)
<b>Norway - Occupational Exposure Limits</b>	
Local name	Natriumhydroksid
Grenseverdier (AN) (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup>
Takverdi (OEL C)	2 mg/m <sup>3</sup>
Regulatory reference	FOR-2024-04-05-581
<b>North Macedonia - Occupational Exposure Limits</b>	
Local name	Натриум хидроксид
OEL TWA	2 mg/m <sup>3</sup> (I) инхалабилна фракција – дел на вкупно суспендирани материи, кои работникот ги вдишува
KTV	1
Short time value [mg/m <sup>3</sup> ]	2 mg/m <sup>3</sup>
Remark	(KTV) краткотрајна вредност (КТВ) значи концентрација на опасни хемиски супстанции во воздухот на работното место внатре во зона на дишење, на која работникот без опасност по здравјето може да е изложен на покусо време. Изложеноста на краткотрајни вредности може да трае највеќе 15 минути и не смее да се повтори повеќе од четирипати во работната смена, при што меѓу две изложености на оваа концентрација мора да измине најмалку 60 минути. Краткотрајната вредност е изразена во mg/m <sup>3</sup> или во ml/m <sup>3</sup> (ppm) а е дадена како многукратни дозволени пречекорувања на граничната вредност; (Y)
Regulatory reference	Правилник за минималните барања за безбедност и здравје при работа на вработени од ризици поврзани со изложување на хемиски супстанции („Службен весник на Република Македонија“ бр.46/10)
<b>Switzerland - Occupational Exposure Limits</b>	
Local name	Soude caustique / Natriumhydroxid [Aetznatron]
VME [mg/m <sup>3</sup> ]	2 mg/m <sup>3</sup> (I) / (e)
KZGW (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup> (I) / (e)
Remark	NIOSH, OSHA
Regulatory reference	www.suva.ch, 18.06.2025
<b>Turkey - Occupational Exposure Limits</b>	
Local name	Sodyum hidroksit
OEL TWA	2 mg/m <sup>3</sup>
Regulatory reference	12 Ağustos 2013 Tarihli ve 28733 Sayılı Resmî Gazete (Değişik:RG-20/10/2023-32345)
<b>USA - ACGIH - Occupational Exposure Limits</b>	
Local name	Sodium hydroxide
ACGIH® TLV® C	2 mg/m <sup>3</sup>
Remark (ACGIH®)	TLV® Basis: Eye, Skin & URT irr
Regulatory reference	ACGIH 2025

# CryoStor CS2; CryoStor CS5

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<b>Potassium hydroxide (1310-58-3)</b>	
<b>Austria - Occupational Exposure Limits</b>	
MAK [mg/m <sup>3</sup> ]	2 mg/m <sup>3</sup>
Remark (AT)	(einatembare Fraktion)
<b>Belgium - Occupational Exposure Limits</b>	
Local name	Potassium (hydroxyde de) # Kaliumhydroxide
Short time value [mg/m <sup>3</sup> ]	2 mg/m <sup>3</sup>
Remark (BE)	M: la mention "M" indique que lors d'une exposition supérieure à la valeur limite, des irritations apparaissent ou un danger d'intoxication aiguë existe. Le procédé de travail doit être conçu de telle façon que l'exposition ne dépasse jamais la valeur limite. Lors des mesurages, la période d'échantillonnage doit être aussi courte que possible afin de pouvoir effectuer des mesurages fiables. Le résultat des mesurages est calculé en fonction de la période d'échantillonnage. # M: de vermelding "M" duidt aan dat bij de blootstelling boven de grenswaarde irritatie optreedt of er gevaar bestaat voor acute vergiftiging. Het werkproces moet zo zijn ontworpen dat de blootstelling de grenswaarde nooit overschrijdt. Bij een controle geldt dat de bemonsterde periode zo kort mogelijk moet zijn om een betrouwbare meting te kunnen verrichten. Het meetresultaat wordt dan gerelateerd aan de beschouwde periode.
Regulatory reference	Koninklijk besluit/Arrêté royal 11/05/2021
<b>Bulgaria - Occupational Exposure Limits</b>	
Local name	Калиева основа
OEL TWA (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup>
Regulatory reference	Наредба № 13 от 30.12.2003 г. за защита на работещите от рискове, свързани с експозиция на химични агенти при работа (изм. и доп. ДВ. бр. 47 от 2021 г., в сила от 04.06.2021 г.)
<b>Croatia - Occupational Exposure Limits</b>	
Local name	Kalijev hidroksid; kaustična potaša
KGVI (OEL STEL)	2 mg/m <sup>3</sup>
Regulatory reference	Pravilnik o zaštiti radnika od izloženosti opasnim kemikalijama na radu, graničnim vrijednostima izloženosti i biološkim graničnim vrijednostima (NN 1/2021)
<b>Czech Republic - Occupational Exposure Limits</b>	
Local name	Hydroxid draselný
Expoziční limity (PEL) (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup>
Expoziční limity (NPK-P) (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup>
Remark	I - dráždí sliznice (oči, dýchací cesty), respektive kůži.
Regulatory reference	Nařízení vlády č. 361/2007 Sb. (Předpis 195/2021 Sb.)
<b>Denmark - Occupational Exposure Limits</b>	
Local name	Kaliumhydroxid
OEL C	2 mg/m <sup>3</sup>
Regulatory reference	BEK nr 2203 af 29. november 2021
<b>Estonia - Occupational Exposure Limits</b>	
Local name	Kaaliumhüdroksiid
OEL TWA	2 mg/m <sup>3</sup>
Regulatory reference	Vabariigi Valitsuse 20. märtsi 2001. a määruse nr 105 (RT I, 15.05.2021, 1)

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<b>Potassium hydroxide (1310-58-3)</b>	
<b>Finland - Occupational Exposure Limits</b>	
Local name	Kaliumhydroksidi
HTP-arvo (15 min)	2 mg/m <sup>3</sup>
HTP (OEL C)	2 mg/m <sup>3</sup>
Regulatory reference	HTP-ARVOT 2020 (Sosiaali- ja terveystieteiden ministeriö)
<b>France - Occupational Exposure Limits</b>	
Local name	Potassium (hydroxyde de)
VLE [mg/m <sup>3</sup> ]	2 mg/m <sup>3</sup>
Note (FR)	Valeurs recommandées/admises
Regulatory reference	Circulaire du Ministère du travail (réf.: INRS ED 984, 2016)
<b>Greece - Occupational Exposure Limits</b>	
Local name	Υδροξείδιο του καλίου
OEL TWA (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup>
OEL STEL	2 mg/m <sup>3</sup>
Regulatory reference	Π.Δ. 90/1999 - Προστασία της υγείας των εργαζομένων που εκτίθενται σε ορισμένους χημικούς παράγοντες κατά τη διάρκεια της εργασίας τους
<b>Hungary - Occupational Exposure Limits</b>	
Local name	KÁLIUM-HIDROXID
AK-érték	2 mg/m <sup>3</sup>
CK-érték	2 mg/m <sup>3</sup>
Remark	m (maró hatású anyag, amely felmarja a bőrt, nyálkahártyát, szemet vagy mindhármat); N (Irritáló anyagok, egyszerű fojtógázok, csekély egészségkárosító hatással bíró anyagok)
Regulatory reference	5/2020. (II. 6.) ITM rendelet - A kémiai kóroki tényezők hatásának kitett munkavállalók egészségének és biztonságának védelméről
<b>Ireland - Occupational Exposure Limits</b>	
Local name	Potassium hydroxide
OEL (15 min ref) (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup>
Regulatory reference	Chemical Agents Code of Practice 2021
<b>Poland - Occupational Exposure Limits</b>	
Local name	Wodorotlenek potasu
NDS (mg/m <sup>3</sup> )	0.5 mg/m <sup>3</sup>
NDSCh (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup>
Regulatory reference	Dz. U. 2018 poz. 1286
<b>Portugal - Occupational Exposure Limits</b>	
Local name	Hidróxido de potássio
OEL C	2 mg/m <sup>3</sup>
OEL C	2 ppm
Regulatory reference	Norma Portuguesa NP 1796:2014
<b>Spain - Occupational Exposure Limits</b>	
Local name	Hidróxido de potasio

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<b>Potassium hydroxide (1310-58-3)</b>	
VLA-EC (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup>
Regulatory reference	Límites de Exposición Profesional para Agentes Químicos en España 2022. INSHT
<b>Sweden - Occupational Exposure Limits</b>	
Local name	Kaliumhydroxid
Nivågränsvärde (NVG) (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup> inhalerbar fraktion
Kortidsvärde (KTV) (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup> inhalerbar fraktion
Remark	3 (Med inhalerbar fraktion menas den mängd partiklar, av totalmängden partiklar i luften, som man inandas genom näsa och mun)
Regulatory reference	Hygieniska gränsvärden (AFS 2018:1)
<b>United Kingdom - Occupational Exposure Limits</b>	
Local name	Potassium hydroxide
WEL STEL (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup>
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE
<b>Iceland - Occupational Exposure Limits</b>	
Local name	Kalíumhýdroxíð
OEL STEL	2 mg/m <sup>3</sup>
Regulatory reference	Reglugerð um mengunarmörk og aðgerðir til að draga úr mengun á vinnustöðum (Nr. 390/2009)
<b>Norway - Occupational Exposure Limits</b>	
Local name	Kaliumhydroksid
Takverdi (OEL C)	2 mg/m <sup>3</sup>
Regulatory reference	FOR-2021-06-28-2248
<b>Switzerland - Occupational Exposure Limits</b>	
Local name	Potasse caustique / Kaliumhydroxid
VME [mg/m <sup>3</sup> ]	2 mg/m <sup>3</sup> (i) / (e)
Critical toxicity	VRS, Peau, Yeux / OAW, Haut, Auge
Remark	NIOSH
Regulatory reference	www.suva.ch, 28.03.2022
<b>USA - ACGIH - Occupational Exposure Limits</b>	
Local name	Potassium hydroxide
ACGIH® TLV® C	2 mg/m <sup>3</sup>
Remark (ACGIH®)	TLV® Basis: URT, eye, & skin irr
Regulatory reference	ACGIH 2021

### 8.1.2. Recommended monitoring procedures

No additional information available.

### 8.1.3. Air contaminants formed

No additional information available.

### 8.1.4. DNEL and PNEC

No additional information available.

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### 8.1.5. Control banding

No additional information available.

## 8.2. Exposure controls

### 8.2.1. Appropriate engineering controls

#### Appropriate engineering controls:

Industrial and professional. Perform risk assessment prior to use. Ensure good ventilation of the work station.

### 8.2.2. Personal protection equipment

#### Personal protective equipment:

Wear recommended personal protective equipment. Avoid all unnecessary exposure.

#### 8.2.2.1. Eye and face protection

##### Eye protection:

Chemical goggles or safety glasses. EN 166.

#### 8.2.2.2. Skin protection

##### Skin and body protection:

Long sleeved protective clothing.

##### Hand protection:

Wear protective gloves. Wear water impervious gloves. Neoprene. Butyl rubber. EN 374.

#### 8.2.2.3. Respiratory protection

##### Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment. If needed, use an air-purifying respirator with organic vapor cartridges and a dust/mist prefilter. EN 136/140.

#### 8.2.2.4. Thermal hazards

No additional information available.

### 8.2.3. Environmental exposure controls

#### Environmental exposure controls:

Avoid release to the environment.

#### Other information:

Do not eat, drink or smoke during use.

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## SECTION 9: Physical and chemical properties

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### 9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: Colorless or slightly yellow
Appearance	: Clear
Odour	: Slight odor
Odour threshold	: Not available
Melting point	: Not applicable
Freezing point	: Not available
Boiling point	: Not available
Flammability	: Not available
Explosive properties	: Product is not explosive
Explosive limits	: Not available
Lower explosion limit	: Not available
Upper explosive limit (UEL)	: Not available
Flash point	: Not available
Auto-ignition temperature	: Not available
Decomposition temperature	: Not available
pH	: 7.5 – 7.7
Viscosity, kinematic	: Not available
Solubility	: Soluble in water
Log Kow	: Not available

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Vapour pressure	: Not available
Vapour pressure at 50°C	: Not available
Density	: Not available
Relative density	: Not available
Relative vapour density at 20°C	: Not available
Particle size	: Not applicable
Particle size distribution	: Not applicable
Particle shape	: Not applicable
Particle aspect ratio	: Not applicable
Particle aggregation state	: Not applicable
Particle agglomeration state	: Not applicable
Particle specific surface area	: Not applicable
Particle dustiness	: Not applicable

### 9.2. Other information

#### 9.2.1. Information with regard to physical hazard classes

No additional information available

#### 9.2.2. Other safety characteristics

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

### 10.2. Chemical stability

Stable under normal conditions of use.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

### 10.5. Incompatible materials

Strong acids, strong bases, strong oxidizers. Strong reducing agents. Halogenated organic and mineral acids. Methyl bromide. Sodium hydride. Halides. Metal salts of oxoacids. Metal salts. Zinc. Steel. Some plastics. Acid chlorides. Boron compounds. Maleic anhydride. Water reactive materials.

### 10.6. Hazardous decomposition products

Fumes. Carbon monoxide. Carbon dioxide.

## SECTION 11: Toxicological information

### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity (oral)	: Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (dermal)	: Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (inhalation)	: Not classified (Based on available data, the classification criteria are not met)

Dimethyl sulfoxide (DMSO) (67-68-5)	
LD50 Oral rat	28300 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity)
LD50 Dermal rat	≈ 40000 mg/kg bodyweight Animal: rat
LC50 Inhalation rat	> 5.33 mg/l Source: ECHA
Sucrose (57-50-1)	
LD50 Oral rat	29700 mg/kg



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### Potassium hydroxide (1310-58-3)

LD50 Oral rat	333 mg/kg bodyweight
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Skin corrosion/irritation : Causes skin irritation.  
pH: 7.5 – 7.7

Additional information : Causes skin irritation.

### Dimethyl sulfoxide (DMSO) (67-68-5)

Skin corrosion/irritation	Not irritating to rabbits on cutaneous application.
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Skin corrosion/irritation, Human experience	Slightly irritating to the skin.
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Serious eye damage/irritation : Causes serious eye irritation.  
pH: 7.5 – 7.7

### Dimethyl sulfoxide (DMSO) (67-68-5)

Serious eye damage/irritation	Not irritating to rabbits on ocular application.
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Serious eye damage/irritation, Human experience	Slightly irritating to eyes.
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Respiratory or skin sensitisation : Not classified (Based on available data, the classification criteria are not met)

### Dimethyl sulfoxide (DMSO) (67-68-5)

Skin sensitization, Guinea pig, mouse	No sensitisation responses were observed.
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Germ cell mutagenicity : Not classified (Based on available data, the classification criteria are not met)

### Dimethyl sulfoxide (DMSO) (67-68-5)

Additional information	Negative (Bacterial reverse mutation assay (e.g. Ames test), Chromosomal aberration test:, Micronucleus test:)
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Carcinogenicity : Not classified (Based on available data, the classification criteria are not met)

Reproductive toxicity : Not classified (Based on available data, the classification criteria are not met)

### Dimethyl sulfoxide (DMSO) (67-68-5)

NOAEL, OECD 421, Oral, rat	1000 mg/kg bw/day (Fertility, mating)
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NOAEL, OECD 414, Developmental, maternal, Oral, gavage, rat	1000 mg/kg bw/day (Lower fetal weight)
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NOAEL, Developmental, maternal, Oral, gavage, rabbit	1000 mg/kg bw/day (Loss of weight)
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STOT-single exposure : Not classified (Based on available data, the classification criteria are not met)

STOT-repeated exposure : Not classified (Based on available data, the classification criteria are not met)

### Dimethyl sulfoxide (DMSO) (67-68-5)

LOAEC (inhalation, rat, dust/mist/fume, 90 days)	2.783 mg/l air Animal: rat, Guideline: OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day Study), Guideline: EPA OPPTS 870.3465 (90-Day Inhalation Toxicity)
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NOAEL (oral, rat, 90 days)	≥ 1000 mg/kg bodyweight Animal: rat, Guideline: other:
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### Sodium hydroxide (1310-73-2)

NOAEC (inhalation, rat, gas, 90 days)	50 ppm
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Aspiration hazard : Not classified (Based on available data, the classification criteria are not met)

## 11.2. Information on other hazards

### 11.2.1. Endocrine disrupting properties

Adverse health effects caused by endocrine disrupting properties : The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or substance(s) are not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %.

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### 11.2.2. Other information

Potential adverse human health effects and symptoms : Causes serious eye irritation. Causes skin irritation.

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.

Hazardous to the aquatic environment, short-term (acute) : Not classified (Based on available data, the classification criteria are not met)

Hazardous to the aquatic environment, long-term (chronic) : Not classified (Based on available data, the classification criteria are not met)

Dimethyl sulfoxide (DMSO) (67-68-5)	
LC50 fish	> 25 g/l Test organisms (species): <i>Danio rerio</i> (previous name: <i>Brachydanio rerio</i> )
EC50 crustacea	24.6 g/l Test organisms (species): <i>Daphnia magna</i>
EC50 other aquatic organisms	> 25000 mg/l 96 h <i>Danio rerio</i>
ErC50 algae	17000 mg/l 72 h <i>Pseudokirchneriella subcapitata</i>

Sodium hydroxide (1310-73-2)	
LC50 fish	> 84 mg/l
EC50 crustacea	40.4 mg/l Test organisms (species): <i>Ceriodaphnia sp.</i>
ErC50 algae	240 mg/l

### 12.2. Persistence and degradability

CryoStor CS2; CryoStor CS5	
Persistence and degradability	Not established.

Dimethyl sulfoxide (DMSO) (67-68-5)	
Persistence and degradability	Not readily biodegradable.
Biodegradation	31 % 28 d

### 12.3. Bioaccumulative potential

CryoStor CS2; CryoStor CS5	
Bioaccumulative potential	Not established.

Dimethyl sulfoxide (DMSO) (67-68-5)	
Log Pow	-1.35 Source: ECHA
Log Kow	-1.35 @ 20 °C
Bioaccumulative potential	Not expected to bioaccumulate.

Sodium hydroxide (1310-73-2)	
Log Pow	-0.3

### 12.4. Mobility in soil

No additional information available.

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### 12.5. Results of PBT and vPvB assessment

#### CryoStor CS2; CryoStor CS5

This mixture does not meet the PBT criteria of REACH regulation, annex XIII.

This mixture does not meet the vPvB criteria of REACH regulation, annex XIII.

### 12.6. Endocrine disrupting properties

Adverse effects on the environment caused by endocrine disrupting properties

: The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or substance(s) are not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %.

### 12.7. Other adverse effects

Additional information

: Avoid release to the environment.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste treatment methods

: Dispose of contents/container in accordance with licensed collector's sorting instructions.

Waste disposal recommendations

: Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

Additional information

: Do not re-use empty containers.

Ecology - waste materials

: Avoid release to the environment.

## SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

### 14.1. UN number or ID number

UN-No. (ADR)

: Not regulated

UN-No. (IMDG)

: Not regulated

UN-No. (IATA)

: Not regulated

UN-No. (ADN)

: Not regulated

UN-No. (RID)

: Not regulated

### 14.2. UN proper shipping name

Proper Shipping Name (ADR)

: Not regulated

Proper Shipping Name (IMDG)

: Not regulated

Proper Shipping Name (IATA)

: Not regulated

Proper Shipping Name (ADN)

: Not regulated

Proper Shipping Name (RID)

: Not regulated

### 14.3. Transport hazard class(es)

#### ADR

Transport hazard class(es) (ADR)

: Not regulated

#### IMDG

Transport hazard class(es) (IMDG)

: Not regulated

#### IATA

Transport hazard class(es) (IATA)

: Not regulated

#### ADN

Transport hazard class(es) (ADN)

: Not regulated

#### RID

Transport hazard class(es) (RID)

: Not regulated

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### 14.4. Packing group

Packing group (ADR)	: Not regulated
Packing group (IMDG)	: Not regulated
Packing group (IATA)	: Not regulated
Packing group (ADN)	: Not regulated
Packing group (RID)	: Not regulated

### 14.5. Environmental hazards

Dangerous for the environment	: No
Marine pollutant	: No
Other information	: No supplementary information available

### 14.6. Special precautions for user

#### Overland transport

Not regulated

#### Transport by sea

Not regulated

#### Air transport

Not regulated

#### Inland waterway transport

Not regulated

#### Rail transport

Not regulated

### 14.7. Maritime transport in bulk according to IMO instruments

Not applicable

## SECTION 15: Regulatory information

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

#### 15.1.1. EU-Regulations

Contains no substance(s) listed on REACH Annex XVII (Restriction Conditions)

Contains no substance(s) listed on the REACH Candidate List

Contains no substance(s) listed on REACH Annex XIV (Authorisation List)

Contains no substance(s) listed on the PIC list (Regulation EU 649/2012 concerning the export and import of hazardous chemicals)

Contains no substance(s) listed on the POP list (Regulation EU 2019/1021 on persistent organic pollutants)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

#### 15.1.2. National regulations

France	
Occupational diseases	
Code	Description
RG 84	Conditions caused by liquid organic solvents for professional use: saturated or unsaturated aliphatic or cyclic liquid hydrocarbons and mixtures thereof; liquid halogenated hydrocarbons; nitrated derivatives of aliphatic hydrocarbons; alcohols; glycols, glycol ethers; ketones; aldehydes; aliphatic and cyclic ethers, including tetrahydrofuran; esters; dimethylformamide and dimethylacetamide; acetonitrile and propionitrile; pyridine; dimethylsulfone and dimethylsulfoxide

#### Germany

Employment restrictions	: Observe restrictions according Act on the Protection of Working Mothers (MuSchG) Observe restrictions according Act on the Protection of Young People in Employment (JArbSchG)
Water hazard class (WGK)	: WGK 1, Slightly hazardous to water (Classification according to AwSV, Annex 1)

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Twelfth Ordinance on the Implementation of the Federal Immission Control Act (12. BImSchV) : Is not subject to the Major Accidents Ordinance (12. BImSchV)

### Netherlands

ABM category : B(4) - low hazard for aquatic organisms  
SZW-lijst van kankerverwekkende stoffen : None of the components are listed  
SZW-lijst van mutagene stoffen : None of the components are listed  
SZW-lijst van reprotoxische stoffen – Borstvoeding : None of the components are listed  
SZW-lijst van reprotoxische stoffen – Vruchtbaarheid : None of the components are listed  
SZW-lijst van reprotoxische stoffen – Ontwikkeling : None of the components are listed

### Switzerland

Storage class (LK) : LK 10/12 - Liquids

## 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

## SECTION 16: Other information

Abbreviations and acronyms:	
ACGIH	American Conference of Government Industrial Hygienists
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
CAS-No.	Chemical Abstract Service number
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
COD	Chemical oxygen demand (COD)
CSA	Chemical safety assessment
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC-No.	European Community number
EC50	Median effective concentration
ED	Endocrine disruptor
EN	European Standard
EWC	European waste catalogue
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
Log Kow	Partition coefficient n-octanol/water (Log Kow)
Log Pow	Partition coefficient n-octanol/water (Log Pow)

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Abbreviations and acronyms:	
MAK	maximum workplace concentration
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
N.O.S.	Not Otherwise Specified
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
OSHA	Occupational Safety Health Administration
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
PPE	Personal protection equipment
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant
TF	Technical function
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
TWA	Time Weighted Average
VOC	Volatile Organic Compounds
vPvB	Very Persistent and Very Bioaccumulative
UFI	Unique Formula Identifier

Data sources : Internal Company test data. Manufacturer Information.

Other information : None.

Full text of H- and EUH-statements:	
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Met. Corr. 1	Corrosive to metals, Category 1
Skin Corr. 1A	Skin corrosion/irritation, Category 1, Sub-Category 1A
Skin Corr. 1B	Skin corrosion/irritation, Category 1, Sub-Category 1B
Skin Irrit. 2	Skin corrosion/irritation, Category 2
H290	May be corrosive to metals.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:		
Skin Irrit. 2	H315	Calculation method



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### Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Eye Irrit. 2	H319	Calculation method
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This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

## Signature Manifest

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### CryoStor® CS2; CS5 Safety Data Sheet (EU)

#### Collaboration Step

Name/Signature	Title	Date	Meaning/Reason
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Michele Haler (MHALER)	Quality Engineer	23 Feb 2026, 04:38:12 AM	Complete

#### Department Approval

Name/Signature	Title	Date	Meaning/Reason
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#### Quality Approval

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#### Training Approval

Name/Signature	Title	Date	Meaning/Reason
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#### Document Control Approval

Name/Signature	Title	Date	Meaning/Reason
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#### Notification

Name/Signature	Title	Date	Meaning/Reason
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