SAFETY DATA SHEET

Creation Date 13-Jan-2012 **Revision Date** 10-Dec-2021 **Revision Number** 3

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product Description: **BactiCard Neisseria**
Cat No. : **R21110**

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

Recommended Use Laboratory chemicals.
Uses advised against No Information available

1.3. Details of the supplier of the safety data sheet

Company

Oxoid Ltd
Wade Road
Basingstoke, Hants, UK
RG24 8PW
Tel: +44 (0) 1256 841144

EU entity/business name
Oxoid Deutschland GmbH
Postfach 10 07 53
D-46483
Wesel
GERMANY
Tel: + 49 (0) 281 1520
Fax: 49 (0) 281 1521

E-mail address mbd-sds@thermofisher.com

1.4. Emergency telephone number

Chemtrec EU: 001-703-527-3887
Chemtrec US: (800) 424-9300

For customers in Switzerland:
Tox Info Suisse Emergency Number: **145 (24hr)**
Tox Info Suisse: +41-44 251 51 51 (Emergency number from abroad)
Chemtrec (24h) Toll-Free: 0800 564 402
Chemtrec Local: +41-43 508 20 11 (Zurich)

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

CLP Classification - Regulation (EC) No 1272/2008

Physical hazards

Based on available data, the classification criteria are not met

Health hazards

Reproductive Toxicity Category 1B (H360FD)

Environmental hazards
Based on available data, the classification criteria are not met

Full text of Hazard Statements: see section 16

2.2. Label elements

Signal Word **Danger**

Hazard Statements
H360FD - May damage fertility. May damage the unborn child

Precautionary Statements
P201 - Obtain special instructions before use
P281 - Use personal protective equipment as required
P308 + P313 - IF exposed or concerned: Get medical advice/attention

Additional EU labelling
Restricted to professional users

2.3. Other hazards

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

Component	CAS No	EC No	Weight %	CLP Classification - Regulation (EC) No 1272/2008
2-Methoxyethanol	109-86-4	EEC No. 203-713-7	1.97	Flam. Liq. 3 (H226) Acute Tox. 4 (H302) Acute Tox. 4 (H312) Acute Tox. 4 (H332) Repr. 1B (H360FD) STOT SE1 (H370) STOT RE2 (H373)
Acetic acid	64-19-7	200-580-7	0.99	Flam. Liq. 3 (H226) Skin Corr. 1A (H314) Eye Dam. 1 (H318)
Formamide	75-12-7	EEC No. 200-842-0	0.79	Repr. 1B (H360D)
Dimethyl sulfoxide	67-68-5	EEC No. 200-664-3	0.74	-

Component	Specific concentration limits (SCL's)	M-Factor	Component notes
Acetic acid	Skin Corr. 1A (H314) :: C>=90% Skin Corr. 1B (H314) :: 25%<=C<90% Eye Irrit. 2 (H319) :: 10%<=C<25% Skin Irrit. 2 (H315) :: 10%<=C<25%	-	-

Full text of Hazard Statements: see section 16

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

Eye Contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention immediately if symptoms occur.

Skin Contact Wash off immediately with plenty of water for at least 15 minutes. Get medical attention immediately if symptoms occur.

Ingestion Clean mouth with water. Get medical attention. Do not induce vomiting without medical advice.

Inhalation Remove to fresh air. Get medical attention immediately if symptoms occur.

Self-Protection of the First Aider Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

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

No information available.

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

Notes to Physician Treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Water spray, carbon dioxide (CO2), dry chemical, alcohol-resistant foam.

Extinguishing media which must not be used for safety reasons
No information available.

5.2. Special hazards arising from the substance or mixture

Thermal decomposition can lead to release of irritating gases and vapors.

Hazardous Combustion Products
None under normal use conditions.

5.3. Advice for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Do not get in eyes, on skin, or on clothing. Wear protective gloves/clothing and eye/face protection. Ensure adequate ventilation.

6.2. Environmental precautions

Prevent further leakage or spillage if safe to do so.

6.3. Methods and material for containment and cleaning up

Soak up with inert absorbent material. After cleaning, flush away traces with water. Keep in suitable, closed containers for disposal.

6.4. Reference to other sections

Refer to protective measures listed in Sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Do not get in eyes, on skin, or on clothing. Ensure adequate ventilation. Wear personal protective equipment/face protection.

Hygiene Measures
Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and after work.

7.2. Conditions for safe storage, including any incompatibilities

Keep container tightly closed. Keep at temperatures between 2° and 8 °C.

Technical Rules for Hazardous Substances (TRGS) 510 Storage Class (LGK) (Germany) Storage Class/LGK 6.1D

7.3. Specific end use(s)

Use in laboratories

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure limits
List source(s): **EU** - Commission Directive (EU) 2019/1831 of 24 October 2019 establishing a fifth list of indicative occupational exposure limit values pursuant to Council Directive 98/24/EC and amending Commission Directive 2000/39/EC **UK** - EH40/2005 Work Exposure Limits, Third edition. Published 2018. **IRE -** 2010 Code of Practice for the Safety, Health and Welfare at Work (Chemical Agents) Regulations 2001. Published by the Health and Safety Authority. **CH** - The Government of Switzerland has set a directive on limit values for working materials (Grenzwerte am arbeitplatz) which is based on the Swiss Federal Regulation "Verordnung über die Verhütung von Unfällen und Berufskrankheiten". This directive is administered, periodically revised and enforced by SUVA (Swiss National Accident Insurance Fund).

Component	European Union	The United Kingdom	France	Belgium	Spain
2-Methoxyethanol	TWA: 1 ppm (8h) Skin	STEL: 3 ppm 15 min STEL: 9 mg/m³ 15 min TWA: 1 ppm 8 hr TWA: 3 mg/m³ 8 hr Skin	TWA / VME: 1 ppm (8 heures). restrictive limit TWA / VME: 3.2 mg/m³ (8 heures). restrictive limit Peau	TWA: 0.1 ppm 8 uren TWA: 0.3 mg/m³ 8 uren Huid	TWA / VLA-ED: 1 ppm (8 horas) TWA / VLA-ED: 3 mg/m³ (8 horas) Piel
Acetic acid	TWA: 25 mg/m³ (15min) TWA: 10 ppm (15min) STEL: 50 mg/m³ (8h) STEL: 20 ppm (8h)	STEL: 37 mg/m³ STEL: 15 ppm TWA: 10 ppm TWA: 25 mg/m³	STEL / VLCT: 10 ppm. STEL / VLCT: 25 mg/m³.	TWA: 10 ppm 8 uren TWA: 25 mg/m³ 8 uren STEL: 15 ppm 15 minuten STEL: 38 mg/m³ 15 minuten	STEL / VLA-EC: 20 ppm (15 minutos). STEL / VLA-EC: 50 mg/m³ (15 minutos). TWA / VLA-ED: 10 ppm (8 horas) TWA / VLA-ED: 25 mg/m³ (8 horas)
Formamide		STEL: 30 ppm 15 min STEL: 56 mg/m³ 15 min TWA: 20 ppm 8 hr TWA: 37 mg/m³ 8 hr	TWA / VME: 20 ppm (8 heures). TWA / VME: 30 mg/m³ (8 heures).	TWA: 10 ppm 8 uren TWA: 18 mg/m³ 8 uren Huid	TWA / VLA-ED: 10 ppm (8 horas) TWA / VLA-ED: 19 mg/m³ (8 horas) Piel

Component	Italy	Germany	Portugal	The Netherlands	Finland
2-Methoxyethanol	TWA: 0.5 ppm 8 ore. Media Ponderata nel Tempo Pelle	TWA: 1 ppm (8 Stunden). AGW - exposure factor 8 TWA: 3.2 mg/m³ (8 Stunden). AGW - exposure factor 8 TWA: 1 ppm (8 Stunden). MAK applies for the sum of the concentrations of 2-Methoxyethanol and its Acetate in air TWA: 3.2 mg/m³ (8 Stunden). MAK applies for the sum of the concentrations of 2-Methoxyethanol and its Acetate in air Höhepunkt: 8 ppm Höhepunkt: 25.6 mg/m³ Haut	TWA: 1 ppm 8 horas Pele	huid TWA: 0.5 mg/m³ 8 uren	TWA: 0.5 ppm 8 tunteina TWA: 1.6 mg/m³ 8 tunteina Iho
Acetic acid	TWA: 25 ppm 8 ore. Media Ponderata nel Tempo TWA: 10 mg/m³ 8 ore. Media Ponderata nel Tempo STEL: 50 mg/m³ 15 minuti. Breve termine STEL: 20 ppm 15 minuti. Breve termine	TWA: 10 ppm (8 Stunden). AGW - exposure factor 2 TWA: 25 mg/m³ (8 Stunden). AGW - exposure factor 2 TWA: 10 ppm (8 Stunden). MAK TWA: 25 mg/m³ (8 Stunden). MAK Höhepunkt: 20 ppm Höhepunkt: 50 mg/m³	STEL: 20 ppm 15 minutos STEL: 50 mg/m³ 15 minutos TWA: 10 ppm 8 horas TWA: 25 mg/m³ 8 horas	MAC-TGG 25 mg/m³	TWA: 5 ppm 8 tunteina TWA: 13 mg/m³ 8 tunteina STEL: 10 ppm 15 minuutteina STEL: 25 mg/m³ 15 minuutteina
Formamide		Haut	TWA: 10 ppm 8 horas Pele		TWA: 10 ppm 8 tunteina TWA: 19 mg/m³ 8 tunteina STEL: 20 ppm 15 minuutteina STEL: 37 mg/m³ 15 minuutteina Iho
Dimethyl sulfoxide		TWA: 50 ppm (8 Stunden). AGW - exposure factor 2 TWA: 160 mg/m³ (8 Stunden). AGW -			TWA: 50 ppm 8 tunteina Iho

		exposure factor 2 TWA: 50 ppm (8 Stunden). MAK TWA: 160 mg/m³ (8 Stunden). MAK Höhepunkt: 100 ppm Höhepunkt: 320 mg/m³ Haut			

Component	Austria	Denmark	Switzerland	Poland	Norway
2-Methoxyethanol	Haut MAK-KZGW: 4 ppm 15 Minuten MAK-TMW: 1 ppm 8 Stunden	TWA: 1 ppm 8 timer Hud	Haut/Peau STEL: 8 ppm 15 Minuten STEL: 25.6 mg/m³ 15 Minuten TWA: 1 ppm 8 Stunden TWA: 3.2 mg/m³ 8 Stunden	TWA: 3 mg/m³ 8 godzinach	TWA: 1 ppm 8 timer TWA: 3.1 mg/m³ 8 timer STEL: 3 ppm 15 minutter. value calculated STEL: 6.2 mg/m³ 15 minutter. value calculated Hud
Acetic acid	MAK-KZGW: 20 ppm 15 Minuten MAK-KZGW: 50 mg/m³ 15 Minuten MAK-TMW: 10 ppm 8 Stunden MAK-TMW: 25 mg/m³ 8 Stunden	TWA: 10 ppm 8 timer TWA: 25 mg/m³ 8 timer	STEL: 20 ppm 15 Minuten STEL: 50 mg/m³ 15 Minuten TWA: 10 ppm 8 Stunden TWA: 25 mg/m³ 8 Stunden	STEL: 50 mg/m³ 15 minutach TWA: 25 mg/m³ 8 godzinach	TWA: 10 ppm 8 timer TWA: 25 mg/m³ 8 timer STEL: 20 ppm 15 minutter. value from the regulation STEL: 50 mg/m³ 15 minutter. value from the regulation
Formamide	Haut MAK-KZGW: 18 ppm 15 Minuten MAK-KZGW: 32 mg/m³ 15 Minuten MAK-TMW: 9 ppm 8 Stunden MAK-TMW: 16 mg/m³ 8 Stunden	TWA: 10 ppm 8 timer TWA: 18 mg/m³ 8 timer Hud	Haut/Peau TWA: 10 ppm 8 Stunden TWA: 18 mg/m³ 8 Stunden	TWA: 23 mg/m³ 8 godzinach	TWA: 10 ppm 8 timer TWA: 18 mg/m³ 8 timer STEL: 20 ppm 15 minutter. value calculated STEL: 27 mg/m³ 15 minutter. value calculated Hud
Dimethyl sulfoxide	Haut MAK-TMW: 50 ppm 8 Stunden MAK-TMW: 160 mg/m³ 8 Stunden	TWA: 50 ppm 8 timer TWA: 160 mg/m³ 8 timer	Haut/Peau STEL: 100 ppm 15 Minuten STEL: 320 mg/m³ 15 Minuten TWA: 50 ppm 8 Stunden TWA: 160 mg/m³ 8 Stunden		

Component	Bulgaria	Croatia	Ireland	Cyprus	Czech Republic
2-Methoxyethanol	TWA: 1 ppm Skin notation	kože TWA-GVI: 1 ppm 8 satima.	TWA: 1 ppm 8 hr. STEL: 3 ppm 15 min Skin	Skin-potential for cutaneous absorption TWA: 1 ppm	TWA: 3 mg/m³ 8 hodinách. Potential for cutaneous absorption Ceiling: 6 mg/m³ toxic for reproduction
Acetic acid	TWA: 25 mg/m³ TWA: 10 ppm STEL : 50 mg/m³ STEL : 20 ppm	TWA-GVI: 10 ppm 8 satima. TWA-GVI: 25 mg/m³ 8 satima. STEL-KGVI: 20 ppm 15 minutama. STEL-KGVI: 50 mg/m³ 15 minutama.	TWA: 20 ppm 8 hr. TWA: 50 mg/m³ 8 hr. STEL: 20 ppm 15 min STEL: 50 mg/m³ 15 min	STEL: 50 mg/m³ STEL: 20 ppm TWA: 10 ppm TWA: 25 mg/m³	TWA: 25 mg/m³ 8 hodinách. Ceiling: 50 mg/m³
Formamide	TWA: 15.0 mg/m³ STEL : 30.0 mg/m³	TWA-GVI: 20 ppm 8 satima. TWA-GVI: 37 mg/m³ 8 satima. STEL-KGVI: 30 ppm 15 minutama. STEL-KGVI: 56 mg/m³ 15 minutama.	TWA: 10 ppm 8 hr. TWA: 18 mg/m³ 8 hr. STEL: 30 ppm 15 min STEL: 54 mg/m³ 15 min		

Component	Estonia	Gibraltar	Greece	Hungary	Iceland
2-Methoxyethanol	Nahk TWA: 1 ppm 8 tundides.	Skin notation TWA: 1 ppm 8 hr	skin - potential for cutaneous absorption TWA: 1 ppm	TWA: 3.16 mg/m³ 8 órában. AK lehetséges borön keresztüli felszívódás	TWA: 1 ppm 8 klukkustundum. Skin notation Ceiling: 2 ppm
Acetic acid	TWA: 10 ppm 8 tundides. TWA: 25 mg/m³ 8 tundides. STEL: 10 ppm 15 minutites. STEL: 25 mg/m³ 15 minutites.	TWA: 25 mg/m³ 8 hr TWA: 10 ppm 8 hr STEL: 50 mg/m³ 15 min STEL: 20 ppm 15 min	STEL: 15 ppm STEL: 37 mg/m³ TWA: 10 ppm TWA: 25 mg/m³	STEL: 50 mg/m³ 15 percekben. CK TWA: 25 mg/m³ 8 órában. AK	STEL: 20 ppm STEL: 50 mg/m³ TWA: 10 ppm 8 klukkustundum. TWA: 25 mg/m³ 8 klukkustundum.
Formamide	Nahk TWA: 10 ppm 8 tundides. TWA: 20 mg/m³ 8 tundides. STEL: 15 ppm 15 minutites. STEL: 30 mg/m³ 15 minutites.		skin - potential for cutaneous absorption STEL: 30 ppm STEL: 45 mg/m³ TWA: 20 ppm TWA: 30 mg/m³		TWA: 10 ppm 8 klukkustundum. TWA: 18 mg/m³ 8 klukkustundum. Skin notation Ceiling: 20 ppm Ceiling: 36 mg/m³
Dimethyl sulfoxide	Nahk TWA: 50 ppm 8 tundides. TWA: 150 mg/m³ 8 tundides. STEL: 150 ppm 15 minutites. STEL: 500 mg/m³ 15 minutites.				

Component	Latvia	Lithuania	Luxembourg	Malta	Romania
2-Methoxyethanol	skin - potential for cutaneous exposure TWA: 1 ppm	TWA: 1 ppm IPRD Oda STEL: 10 ppm STEL: 30 mg/m³	Possibility of significant uptake through the skin TWA: 1 ppm 8 Stunden	possibility of significant uptake through the skin TWA: 1 ppm	Skin notation TWA: 1 ppm 8 ore TWA: 3.2 mg/m³ 8 ore
Acetic acid	STEL: 50 mg/m³ STEL: 20 ppm TWA: 10 ppm TWA: 25 mg/m³	TWA: 10 ppm IPRD TWA: 25 mg/m³ IPRD STEL: 50 mg/m³ STEL: 20 ppm	TWA: 10 ppm 8 Stunden TWA: 25 mg/m³ 8 Stunden STEL: 50 mg/m³ 15 Minuten STEL: 20 ppm 15 Minuten	TWA: 10 ppm TWA: 25 mg/m³ STEL: 20 ppm 15 minuti STEL: 50 mg/m³ 15 minuti	TWA: 10 ppm 8 ore TWA: 25 mg/m³ 8 ore STEL: 20 ppm 15 minute STEL: 50 mg/m³ 15 minute
Formamide		TWA: 10 ppm IPRD TWA: 20 mg/m³ IPRD Oda STEL: 15 ppm STEL: 30 mg/m³			TWA: 11 ppm 8 ore TWA: 20 mg/m³ 8 ore STEL: 16 ppm 15 minute STEL: 30 mg/m³ 15 minute
Dimethyl sulfoxide		TWA: 50 ppm IPRD TWA: 150 mg/m³ IPRD Oda STEL: 150 ppm STEL: 500 mg/m³			

Component	Russia	Slovak Republic	Slovenia	Sweden	Turkey
2-Methoxyethanol		Ceiling: 128 mg/m³ Potential for cutaneous absorption TWA: 5 ppm	TWA: 1 ppm 8 urah TWA: 3.2 mg/m³ 8 urah Kože STEL: 8 ppm 15 minutah STEL: 25.6 mg/m³ 15 minutah	TLV: 1 ppm 8 timmar. NGV Hud	Deri TWA: 1 ppm 8 saat
Acetic acid	Skin notation MAC: 5 mg/m³	Ceiling: 50 mg/m³ TWA: 10 ppm TWA: 25 mg/m³	TWA: 10 ppm 8 urah TWA: 25 mg/m³ 8 urah STEL: 50 mg/m³ 15	Binding STEL: 10 ppm 15 minuter Binding STEL: 25	TWA: 10 ppm 8 saat TWA: 25 mg/m³ 8 saat

			minutah STEL: 20 ppm 15 minutah	mg/m³ 15 minuter TLV: 5 ppm 8 timmar. NGV TLV: 13 mg/m³ 8 timmar. NGV	
Formamide	MAC: 3 mg/m³			Indicative STEL: 15 ppm 15 minuter Indicative STEL: 30 mg/m³ 15 minuter TLV: 10 ppm 8 timmar. NGV TLV: 20 mg/m³ 8 timmar. NGV Hud	
Dimethyl sulfoxide	MAC: 20 mg/m³		TWA: 160 mg/m³ 8 urah TWA: 50 ppm 8 urah Koža STEL: 100 ppm 15 minutah STEL: 320 mg/m³ 15 minutah	Indicative STEL: 150 ppm 15 minuter Indicative STEL: 500 mg/m³ 15 minuter TLV: 50 ppm 8 timmar. NGV TLV: 150 mg/m³ 8 timmar. NGV Hud	

Biological limit values
List source(s):

Component	European Union	United Kingdom	France	Spain	Germany
2-Methoxyethanol				2-Methoxyacetic acid: 8 mg/g Creatinine urine end of workweek, after at least two work weeks	Methoxyacetic acid: 15 mg/g Creatinine urine (end of shift)

Monitoring methods
BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents.

Derived No Effect Level (DNEL) / Derived Minimum Effect Level (DMEL)
See table for values

Component	Acute effects local (Oral)	Acute effects systemic (Oral)	Chronic effects local (Oral)	Chronic effects systemic (Oral)
2-Methoxyethanol 109-86-4 (1.97)				11 mg/kg bw/d

Component	Acute effects local (Dermal)	Acute effects systemic (Dermal)	Chronic effects local (Dermal)	Chronic effects systemic (Dermal)
2-Methoxyethanol 109-86-4 (1.97)				DNEL = 0.22mg/kg bw/day
Formamide 75-12-7 (0.79)				DNEL = 0.952mg/kg bw/day
Dimethyl sulfoxide 67-68-5 (0.74)				DNEL = 200mg/kg bw/day

Component	Acute effects local (Inhalation)	Acute effects systemic (Inhalation)	Chronic effects local (Inhalation)	Chronic effects systemic (Inhalation)
2-Methoxyethanol 109-86-4 (1.97)				DNEL = 0.31mg/m³
Acetic acid	DNEL = 25mg/m³		DNEL = 25mg/m³	

64-19-7 (0.99)				
Formamide 75-12-7 (0.79)				DNEL = 6.6mg/m³
Dimethyl sulfoxide 67-68-5 (0.74)			DNEL = 265mg/m³	DNEL = 484mg/m³

Predicted No Effect Concentration (PNEC)
See values below.

Component	Fresh water	Fresh water sediment	Water Intermittent	Microorganisms in sewage treatment	Soil (Agriculture)
2-Methoxyethanol 109-86-4 (1.97)	PNEC = 10mg/L	PNEC = 36.8mg/kg sediment dw	PNEC = 94mg/L	PNEC = 1000mg/L	PNEC = 1.87mg/kg soil dw
Acetic acid 64-19-7 (0.99)	PNEC = 3.058mg/L	PNEC = 11.36mg/kg sediment dw	PNEC = 30.58mg/L	PNEC = 85mg/L	PNEC = 0.47mg/kg soil dw
Formamide 75-12-7 (0.79)	PNEC = 0.5mg/L	PNEC = 1.26mg/kg sediment dw	PNEC = 5mg/L	PNEC = 100mg/L	PNEC = 0.151mg/kg soil dw
Dimethyl sulfoxide 67-68-5 (0.74)	PNEC = 17mg/L	PNEC = 13.4mg/kg sediment dw		PNEC = 11mg/L	PNEC = 3.02mg/kg soil dw

Component	Marine water	Marine water sediment	Marine water Intermittent	Food chain	Air
2-Methoxyethanol 109-86-4 (1.97)	PNEC = 1mg/L	PNEC = 3.68mg/kg sediment dw		PNEC = 7.3mg/kg food	
Acetic acid 64-19-7 (0.99)	PNEC = 0.3058mg/L	PNEC = 1.136mg/kg sediment dw			
Formamide 75-12-7 (0.79)	PNEC = 0.5mg/L				
Dimethyl sulfoxide 67-68-5 (0.74)	PNEC = 1.7mg/L			PNEC = 0.7g/kg food	

8.2. Exposure controls

Engineering Measures
Handle only in a place equipped with local exhaust (or other appropriate exhaust).
Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

Personal protective equipment

Eye Protection Wear safety glasses with side shields (or goggles) (European standard - EN 166)

Hand Protection Protective gloves

Glove material	Breakthrough time	Glove thickness	EU standard	Glove comments
Disposable gloves	See manufacturers recommendations	-	EN 374	(minimum requirement)

Skin and body protection Long sleeved clothing.

Inspect gloves before use. observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information) gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion. gloves with care avoiding skin contamination.

Respiratory Protection When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
To protect the wearer, respiratory protective equipment must be the correct fit and be used

and maintained properly

Large scale/emergency use In case of insufficient ventilation, wear suitable respiratory equipment

Small scale/Laboratory use Use a NIOSH/MSHA or European Standard EN 149:2001 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.
When RPE is used a face piece Fit Test should be conducted

Environmental exposure controls No information available.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical State	Liquid	
Appearance	No information available	
Odor	No information available	
Odor Threshold	No data available	
Melting Point/Range	No data available	
Softening Point	No data available	
Boiling Point/Range	Not applicable	
Flammability (liquid)	No data available	
Flammability (solid,gas)	Not applicable	Liquid
Explosion Limits	No data available	
Flash Point	Not applicable	**Method -** No information available
Autoignition Temperature	No data available	
Decomposition Temperature	No data available	
pH	Not applicable	
Viscosity	No data available	
Water Solubility	No information available	
Solubility in other solvents	No information available	

Partition Coefficient (n-octanol/water)

Component	**log Pow**
2-Methoxyethanol	-0.85
Acetic acid	-0.2
Formamide	-0.82
Dimethyl sulfoxide	-2.03

Vapor Pressure	No data available	
Density / Specific Gravity	No data available	
Bulk Density	Not applicable	Liquid
Vapor Density	No data available	(Air = 1.0)
Particle characteristics	Not applicable (liquid)	

9.2. Other information

VOC Content(%) 4.63

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

None known, based on information available

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

Hazardous Polymerization Hazardous polymerization does not occur.
Hazardous Reactions None under normal processing.

10.4. Conditions to avoid

Incompatible products. Excess heat.

10.5. Incompatible materials

None known.

10.6. Hazardous decomposition products

None under normal use conditions.

SECTION 11: TOXICOLOGICAL INFORMATION

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

Product Information Product does not present an acute toxicity hazard based on known or supplied information

(a) acute toxicity;
Oral Based on ATE data, the classification criteria are not met
Dermal Based on ATE data, the classification criteria are not met
Inhalation Based on ATE data, the classification criteria are not met

Toxicology data for the components

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
2-Methoxyethanol	LD50 = 2370 mg/kg (Rat)	LD50 = 1280 mg/kg (Rabbit)	LC50 = 1478 ppm (Rat) 7 h
Acetic acid	3310 mg/kg (Rat)	-	> 40 mg/L (Rat) 4 h
Formamide	LD50 = 5577 mg/kg (Rat)	LD50 = 6 g/kg (Rabbit)	LC50 > 21 mg/L (Rat) 4 h
Dimethyl sulfoxide	LD50 = 28300 mg/kg (Rat)	LD50 = 40000 mg/kg (Rat)	LC50 > 5.33 mg/L (Rat) 4 h

(b) skin corrosion/irritation; No data available

(c) serious eye damage/irritation; No data available

(d) respiratory or skin sensitization;
Respiratory No data available
Skin No data available

(e) germ cell mutagenicity; No data available

(f) carcinogenicity; No data available

There are no known carcinogenic chemicals in this product

(g) reproductive toxicity; Category 1B
Reproductive Effects May impair fertility. May cause harm to the unborn child.

(h) STOT-single exposure; No data available

(i) STOT-repeated exposure; No data available

Target Organs No information available.

(j) aspiration hazard; No data available

Symptoms / effects,both acute and delayed No information available.

11.2. Information on other hazards

Endocrine Disrupting Properties Assess endocrine disrupting properties for human health. This product does not contain any known or suspected endocrine disruptors.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecotoxicity effects . Contains no substances known to be hazardous to the environment or that are not degradable in waste water treatment plants.

Component	Freshwater Fish	Water Flea	Freshwater Algae
2-Methoxyethanol	LC50: = 9650 mg/L, 96h static (Lepomis macrochirus) LC50: = 16000 mg/L, 96h static (Oncorhynchus mykiss) LC50: = 10000 mg/L, 96h static (Lepomis macrochirus)		
Acetic acid	Pimephales promelas: LC50 = 88 mg/L/96h Lepomis macrochirus: LC50 = 75 mg/L/96h	EC50 = 95 mg/L/24h	-
Formamide	LC50: = 9135 mg/L, 96h static (Brachydanio rerio)	EC50: > 500 mg/L, 48h (Daphnia magna)	EC50: > 500 mg/L, 72h (Desmodesmus subspicatus) EC50: > 500 mg/L, 96h (Desmodesmus subspicatus)
Dimethyl sulfoxide	40 g/L LC50 96 h 33-37 g/L LC50 96 h	EC50 24h 7000 mg/L	EC50 96h 12350 - 25500 mg/L

Component	Microtox	M-Factor
Acetic acid	Photobacterium phosphoreum: EC50 = 8.8 mg/L/15 min Photobacterium phosphoreum: EC50 = 8.8 mg/L/25 min Photobacterium phosphoreum: EC50 = 8.8 mg/L/5 min	
Formamide	EC50 > 10000 mg/L 17 h	
Dimethyl sulfoxide	= 16000 mg/L EC50 Pseudomonas putida 16 h = 32 g/L EC50 Tetrahymena pyriformis 24 h = 77 mg/L EC50 Photobacterium phosphoreum 5 min	

12.2. Persistence and degradability No information available

12.3. Bioaccumulative potential No information available

Component	log Pow	Bioconcentration factor (BCF)
2-Methoxyethanol	-0.85	No data available
Acetic acid	-0.2	No data available
Formamide	-0.82	No data available
Dimethyl sulfoxide	-2.03	No data available

12.4. Mobility in soil No information available .

12.5. Results of PBT and vPvB assessment No data available for assessment.

12.6. Endocrine disrupting properties

Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors

12.7. Other adverse effects

Persistent Organic Pollutant This product does not contain any known or suspected substance

Ozone Depletion Potential This product does not contain any known or suspected substance

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste from Residues/Unused Products Dispose of in accordance with federal, state and local regulations. Waste is classified as hazardous. Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations.

Contaminated Packaging Dispose of this container to hazardous or special waste collection point.

European Waste Catalogue (EWC) According to the European Waste Catalog, Waste Codes are not product specific, but application specific.

Other Information Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains.

Switzerland - Waste Ordinance Disposal should be in accordance with applicable regional, national and local laws and regulations. Ordinance on the Avoidance and the Disposal of Waste (Waste Ordinance, ADWO) SR 814.600
https://www.fedlex.admin.ch/eli/cc/2015/891/en

SECTION 14: TRANSPORT INFORMATION

IMDG/IMO Not regulated

14.1. UN number
14.2. UN proper shipping name
14.3. Transport hazard class(es)
14.4. Packing group

ADR Not regulated

14.1. UN number
14.2. UN proper shipping name
14.3. Transport hazard class(es)
14.4. Packing group

IATA Not regulated

14.1. UN number
14.2. UN proper shipping name
14.3. Transport hazard class(es)
14.4. Packing group

14.5. Environmental hazards No hazards identified

14.6. Special precautions for user No special precautions required

14.7. Maritime transport in bulk according to IMO instruments Not applicable, packaged goods

SECTION 15: REGULATORY INFORMATION

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

International Inventories
Europe (EINECS/ELINCS/NLP), China (IECSC), Taiwan (TCSI), Korea (KECL), Japan (ENCS), Japan (ISHL), Canada (DSL/NDSL), Australia (AICS), New Zealand (NZIoC), Philippines (PICCS). US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

Component	CAS No	EINECS	ELINCS	NLP	IECSC	TCSI	KECL	ENCS	ISHL
2-Methoxyethanol	109-86-4	203-713-7	-	-	X	X	KE-23272	X	X
Acetic acid	64-19-7	200-580-7	-	-	X	X	X	X	X
Formamide	75-12-7	200-842-0	-	-	X	X	KE-17231	X	X
Dimethyl sulfoxide	67-68-5	200-664-3	-	-	X	X	KE-32367	X	X

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	DSL	NDSL	AICS	NZIoC	PICCS
2-Methoxyethanol	109-86-4	X	ACTIVE	X	-	X	X	X
Acetic acid	64-19-7	X	ACTIVE	X	-	X	X	X
Formamide	75-12-7	X	ACTIVE	X	-	X	X	X
Dimethyl sulfoxide	67-68-5	X	ACTIVE	X	-	X	X	X

Legend: X - Listed '-' - Not Listed **KECL** - NIER number or KE number (http://ncis.nier.go.kr/en/main.do)

Authorisation/Restrictions according to EU REACH

Component	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC)
2-Methoxyethanol	-	Use restricted. See item 30. (see link for restriction details) Use restricted. See item 75. (see link for restriction details)	SVHC Candidate list - 203-713-7 - Toxic for reproduction, Article 57c
Acetic acid	-	Use restricted. See item 75. (see link for restriction details)	-
Formamide	-	Use restricted. See item 30. (see link for restriction details) Use restricted. See item 75. (see link for restriction details)	SVHC Candidate list - Toxic for reproduction (Article 57 c)
Dimethyl sulfoxide	-	Use restricted. See item 75. (see link for restriction details)	-

After the sunset date the use of this substance requires either an authorization or can only be used for exempted uses, e.g. use in scientific research and development which includes routine analytics or use as intermediate.

https://echa.europa.eu/authorisation-list
https://echa.europa.eu/substances-restricted-under-reach
https://echa.europa.eu/candidate-list-table

Component	CAS No	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements
2-Methoxyethanol	109-86-4	Not applicable	Not applicable
Acetic acid	64-19-7	Not applicable	Not applicable
Formamide	75-12-7	Not applicable	Not applicable
Dimethyl sulfoxide	67-68-5	Not applicable	Not applicable

Regulation (EC) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of dangerous chemicals
Not applicable

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work .
Take note of Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values
Take note of Directive 94/33/EC on the protection of young people at work
Take note of Dir 92/85/EC on the protection of pregnant and breastfeeding women at work

National Regulations

UK - Take note of Control of Substances Hazardous to Health Regulations (COSHH) 2002 and 2005 Amendment

WGK Classification Water endangering class = 1 (self classification)

Component	Germany - Water Classification (VwVwS)	Germany - TA-Luft Class
2-Methoxyethanol	WGK 2	
Acetic acid	WGK1	Class II : 0.10 g/m³ (Massenkonzentration)
Formamide	WGK1	Class I : 20 mg/m³ (Massenkonzentration)
Dimethyl sulfoxide	WGK1	

Component	France - INRS (Tables of occupational diseases)
2-Methoxyethanol	Tableaux des maladies professionnelles (TMP) - RG 84
Dimethyl sulfoxide	Tableaux des maladies professionnelles (TMP) - RG 84

Swiss Regulations
Article 4 para. 4 of the Ordinance on the protection of young people in the workplace (SR 822.115) and Article 1 lit. f of the EAER regulation on hazardous work and young people (SR 822.115.2).
Take note on Article 13 Maternity Ordinance (SR 822.111.52) with regards expectant and nursing mothers.

Component	Switzerland - Ordinance on the Reduction of Risk from handling of hazardous substances preparation (SR 814.81)	Switzerland - Ordinance on Incentive Taxes on Volatile Organic Compounds (OVOC)	Switzerland - Ordinance of the Rotterdam Convention on the Prior Informed Consent Procedure
2-Methoxyethanol 109-86-4 (1.97)		Group I	
Acetic acid 64-19-7 (0.99)	Prohibited and Restricted Substances	Group I	

15.2. Chemical safety assessment

Chemical Safety Assessment/Reports (CSA/CSR) are not required for mixtures

SECTION 16: OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3

H226 - Flammable liquid and vapor
H360D - May damage the unborn child
H360FD - May damage fertility. May damage the unborn child
H302 - Harmful if swallowed
H312 - Harmful in contact with skin
H314 - Causes severe skin burns and eye damage
H318 - Causes serious eye damage
H332 - Harmful if inhaled

Legend

CAS - Chemical Abstracts Service
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
IECSC - Chinese Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
ENCS - Japanese Existing and New Chemical Substances
AICS - Australian Inventory of Chemical Substances
NZIoC - New Zealand Inventory of Chemicals

WEL - Workplace Exposure Limit
ACGIH - American Conference of Governmental Industrial Hygienists
DNEL - Derived No Effect Level
RPE - Respiratory Protective Equipment
LC50 - Lethal Concentration 50%
NOEC - No Observed Effect Concentration
PBT - Persistent, Bioaccumulative, Toxic
TWA - Time Weighted Average
IARC - International Agency for Research on Cancer
Predicted No Effect Concentration (PNEC)
LD50 - Lethal Dose 50%
EC50 - Effective Concentration 50%
POW - Partition coefficient Octanol:Water
vPvB - very Persistent, very Bioaccumulative

ADR - European Agreement Concerning the International Carriage of Dangerous Goods by Road
IMO/IMDG - International Maritime Organization/International Maritime Dangerous Goods Code
OECD - Organisation for Economic Co-operation and Development
BCF - Bioconcentration factor
ICAO/IATA - International Civil Aviation Organization/International Air Transport Association
MARPOL - International Convention for the Prevention of Pollution from Ships
ATE - Acute Toxicity Estimate
VOC - (volatile organic compound)

Key literature references and sources for data
https://echa.europa.eu/information-on-chemicals
Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

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

Physical hazards	On basis of test data
Health Hazards	Calculation method
Environmental hazards	Calculation method

Training Advice
Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

Creation Date	13-Jan-2012
Revision Date	10-Dec-2021
Revision Summary	Update to CLP Format.

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006. COMMISSION REGULATION (EU) 2020/878 amending Annex II to Regulation (EC) No 1907/2006 .

For Switzerland - Compiled in accordance with the technical provisions referred to in Annex 2, Number 3, ChemO (SR 813.11 - Ordinance on Protection against Dangerous Substances and Preparations).

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage,

transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of Safety Data Sheet