SAFETY DATA SHEET

Creation Date 21-Feb-2011 **Revision Date** 10-Dec-2021 **Revision Number** 4

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

1.1. Product identifier

Product Description: **RapID STR Panel**
Cat No. : **R8311003**

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

Thermo Fisher Scientific
20 Dalgleish Street
Thebarton
Adelaide
South Australia 5031
AUSTRALIA
Tel: 61 8 8238 9050 or 1800 33 11 63 (Toll Free)
Fax: 61 8 8238 9060 or 1800 00 70 54 (Toll Free)

E-mail address begel.sdsdesk@thermofisher.com

1.4. Emergency telephone number

1800 331 163

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

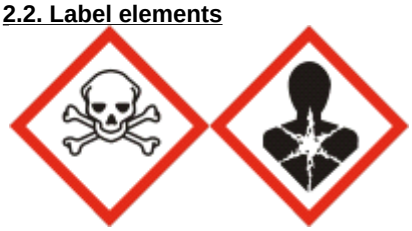
Acute oral toxicity	Category 4 (H302)
Acute dermal toxicity	Category 4 (H312)
Acute Inhalation Toxicity - Vapors	Category 3 (H331)
Reproductive Toxicity	Category 1B (H360FD)
Specific target organ toxicity - (single exposure)	Category 1 (H370)

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

H302 - Harmful if swallowed
H312 - Harmful in contact with skin
H331 - Toxic if inhaled
H360FD - May damage fertility. May damage the unborn child
H370 - Causes damage to organs

Precautionary Statements

P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310 - Immediately call a POISON CENTER or doctor/physician
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P301 + P330 + P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower

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	16	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)
Methanol	67-56-1	EEC No. 200-659-6	16	Acute Tox. 3 (H301) Acute Tox. 3 (H311) Acute Tox. 3 (H331) STOT SE 1 (H370) Flam. Liq. 2 (H225)
Acetic acid	64-19-7	200-580-7	6.6	Flam. Liq. 3 (H226)

				Skin Corr. 1A (H314) Eye Dam. 1 (H318)

Component	Specific concentration limits (SCL's)	M-Factor	Component notes
Methanol	STOT SE 1 (H370) :: C>=10% STOT SE 2 (H371) :: 3%<=C<10%	-	-
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.

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

Ingestion Do NOT induce vomiting. Call a physician or poison control center immediately.

Inhalation If breathing is difficult, give oxygen. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Remove to fresh air. Immediate medical attention is required.

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

None reasonably foreseeable. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting

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
Water spray, carbon dioxide (CO2), dry chemical, alcohol-resistant foam.

Extinguishing media which must not be used for safety reasons
Do not use a solid water stream as it may scatter and spread fire.

5.2. Special hazards arising from the substance or mixture

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

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

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

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Avoid contact with skin, eyes or clothing. Use personal protective equipment as required.

6.2. Environmental precautions

Should not be released into the environment.

6.3. Methods and material for containment and cleaning up

Soak up with inert absorbent material. 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. Do not breathe mist/vapors/spray. Use only under a chemical fume hood. Wear personal protective equipment/face protection. Do not ingest. If swallowed then seek immediate medical assistance.

Hygiene Measures
Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Keep containers tightly closed in a dry, cool and well-ventilated place.

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
Methanol	TWA: 200 ppm (8hr) TWA: 260 mg/m³ (8hr) Skin	STEL: 250 ppm STEL: 333 mg/m³ TWA: 266 mg/m³ TWA: 200 ppm	TWA / VME: 200 ppm (8 heures). restrictive limit TWA / VME: 260 mg/m³ (8 heures). restrictive limit STEL / VLCT: 1000 ppm. STEL / VLCT: 1300 mg/m³. Peau	TWA: 200 ppm 8 uren TWA: 266 mg/m³ 8 uren STEL: 250 ppm 15 minuten STEL: 333 mg/m³ 15 minuten Huid	TWA / VLA-ED: 200 ppm (8 horas) TWA / VLA-ED: 266 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)

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
Methanol	TWA: 200 ppm 8 ore. Media Ponderata nel Tempo TWA: 260 mg/m³ 8 ore. Media Ponderata nel Tempo Pelle	TWA: 100 ppm (8 Stunden). AGW - exposure factor 2 TWA: 130 mg/m³ (8 Stunden). AGW - exposure factor 2 TWA: 100 ppm (8 Stunden). MAK TWA: 130 mg/m³ (8 Stunden). MAK Höhepunkt: 200 ppm Höhepunkt: 260 mg/m³ Haut	STEL: 250 ppm 15 minutos TWA: 200 ppm 8 horas TWA: 260 mg/m³ 8 horas Pele	huid TWA: 133 mg/m³ 8 uren	TWA: 200 ppm 8 tunteina TWA: 270 mg/m³ 8 tunteina STEL: 250 ppm 15 minuutteina STEL: 330 mg/m³ 15 minuutteina 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

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
Methanol	Haut MAK-KZGW: 800 ppm 15 Minuten MAK-KZGW: 1040 mg/m³ 15 Minuten MAK-TMW: 200 ppm 8 Stunden MAK-TMW: 260 mg/m³ 8 Stunden	TWA: 200 ppm 8 timer TWA: 260 mg/m³ 8 timer Hud	Haut/Peau STEL: 400 ppm 15 Minuten STEL: 520 mg/m³ 15 Minuten TWA: 200 ppm 8 Stunden TWA: 260 mg/m³ 8 Stunden	STEL: 300 mg/m³ 15 minutach TWA: 100 mg/m³ 8 godzinach	TWA: 100 ppm 8 timer TWA: 130 mg/m³ 8 timer STEL: 150 ppm 15 minutter. value calculated STEL: 162.5 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

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
Methanol	TWA: 200 ppm TWA: 260.0 mg/m³ Skin notation	kože TWA-GVI: 200 ppm 8 satima. TWA-GVI: 260 mg/m³ 8 satima.	TWA: 200 ppm 8 hr. TWA: 260 mg/m³ 8 hr. STEL: 600 ppm 15 min STEL: 780 mg/m³ 15 min Skin	Skin-potential for cutaneous absorption TWA: 200 ppm TWA: 260 mg/m³	TWA: 250 mg/m³ 8 hodinách. Potential for cutaneous absorption Ceiling: 1000 mg/m³
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

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
Methanol	Nahk	Skin notation	skin - potential for	TWA: 260 mg/m³ 8	TWA: 200 ppm 8

	TWA: 200 ppm 8 tundides. TWA: 250 mg/m³ 8 tundides. STEL: 250 ppm 15 minutites. STEL: 350 mg/m³ 15 minutites.	TWA: 200 ppm 8 hr TWA: 260 mg/m³ 8 hr	cutaneous absorption STEL: 250 ppm STEL: 325 mg/m³ TWA: 200 ppm TWA: 260 mg/m³	órában. AK lehetséges borön keresztüli felszívódás	klukkustundum. TWA: 260 mg/m³ 8 klukkustundum. Skin notation Ceiling: 400 ppm Ceiling: 520 mg/m³
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.

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
Methanol	skin - potential for cutaneous exposure TWA: 200 ppm TWA: 260 mg/m³	TWA: 200 ppm IPRD TWA: 260 mg/m³ IPRD Oda	Possibility of significant uptake through the skin TWA: 200 ppm 8 Stunden TWA: 260 mg/m³ 8 Stunden	possibility of significant uptake through the skin TWA: 200 ppm TWA: 260 mg/m³	Skin notation TWA: 200 ppm 8 ore TWA: 260 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

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 Koža 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
Methanol	TWA: 5 mg/m³ 1250 Skin notation MAC: 15 mg/m³	Potential for cutaneous absorption TWA: 200 ppm TWA: 260 mg/m³	TWA: 200 ppm 8 urah TWA: 260 mg/m³ 8 urah Koža STEL: 800 ppm 15 minutah STEL: 1040 mg/m³ 15 minutah	Indicative STEL: 250 ppm 15 minuter Indicative STEL: 350 mg/m³ 15 minuter TLV: 200 ppm 8 timmar. NGV TLV: 250 mg/m³ 8 timmar. NGV Hud	Deri TWA: 200 ppm 8 saat TWA: 260 mg/m³ 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 minutah STEL: 20 ppm 15 minutah	Binding STEL: 10 ppm 15 minuter Binding STEL: 25 mg/m³ 15 minuter TLV: 5 ppm 8 timmar. NGV TLV: 13 mg/m³ 8 timmar. NGV	TWA: 10 ppm 8 saat TWA: 25 mg/m³ 8 saat

Biological limit values

List source(s):

Component	European Union	United Kingdom	France	Spain	Germany
2-Methoxyethanol				2-Methoxyacetic acid: 8	Methoxyacetic acid: 15

				mg/g Creatinine urine end of workweek, after at least two work weeks	mg/g Creatinine urine (end of shift)
Methanol			Methanol: 15 mg/L urine end of shift	Methanol: 15 mg/L urine end of shift	Methanol: 15 mg/L urine (end of shift) Methanol: 15 mg/L urine (for long-term exposures: at the end of the shift after several shifts)

Component	Italy	Finland	Denmark	Bulgaria	Romania
Methanol					Methanol: 6 mg/L urine end of shift

Component	Gibraltar	Latvia	Slovak Republic	Luxembourg	Turkey
Methanol			Methanol: 30 mg/L urine end of exposure or work shift Methanol: 30 mg/L urine after all work shifts for long-term exposure		

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 (16)				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 (16)				DNEL = 0.22mg/kg bw/day
Methanol 67-56-1 (16)		DNEL = 20mg/kg bw/day		DNEL = 20mg/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 (16)				DNEL = 0.31mg/m^3
Methanol 67-56-1 (16)	DNEL = 130mg/m^3	DNEL = 130mg/m^3	DNEL = 130mg/m^3	DNEL = 130mg/m^3
Acetic acid 64-19-7 (6.6)	DNEL = 25mg/m^3		DNEL = 25mg/m^3	

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 (16)	PNEC = 10mg/L	PNEC = 36.8mg/kg sediment dw	PNEC = 94mg/L	PNEC = 1000mg/L	PNEC = 1.87mg/kg soil dw
Methanol 67-56-1 (16)	PNEC = 20.8mg/L	PNEC = 77mg/kg sediment dw	PNEC = 1540mg/L	PNEC = 100mg/L	PNEC = 100mg/kg soil dw

Acetic acid 64-19-7 (6.6)	PNEC = 3.058mg/L	PNEC = 11.36mg/kg sediment dw	PNEC = 30.58mg/L	PNEC = 85mg/L	PNEC = 0.47mg/kg soil dw

Component	Marine water	Marine water sediment	Marine water Intermittent	Food chain	Air
2-Methoxyethanol 109-86-4 (16)	PNEC = 1mg/L	PNEC = 3.68mg/kg sediment dw		PNEC = 7.3mg/kg food	
Methanol 67-56-1 (16)	PNEC = 2.08mg/L	PNEC = 7.7mg/kg sediment dw			
Acetic acid 64-19-7 (6.6)	PNEC = 0.3058mg/L	PNEC = 1.136mg/kg sediment dw			

8.2. Exposure controls

Engineering Measures
Ensure that eyewash stations and safety showers are close to the workstation location.
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 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 Colourless
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	2.9	
Viscosity	No data available	
Water Solubility	Soluble in water	
Solubility in other solvents	No information available	

Partition Coefficient (n-octanol/water)

Component	**log Pow**
2-Methoxyethanol	-0.85
Methanol	-0.77
Acetic acid	-0.2

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(%) 39.69

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

None known, based on information available

10.2. Chemical stability

Stable under normal 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

Strong oxidizing agents. Bases.

10.6. Hazardous decomposition products

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

SECTION 11: TOXICOLOGICAL INFORMATION

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

Product Information

(a) acute toxicity;

Oral	Category 4
Dermal	Category 4
Inhalation	Category 3

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
Methanol	LD50 = 6200 mg/kg (Rat)	LD50 = 15840 mg/kg (Rabbit)	LC50 = 22500 ppm (Rat) 8 h
Acetic acid	3310 mg/kg (Rat)	-	> 40 mg/L (Rat) 4 h

(b) skin corrosion/irritation; Category 1 A

(c) serious eye damage/irritation; Category 1

(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

Developmental Effects May cause harm to the unborn child.

(h) STOT-single exposure; Category 1

Results / Target organs Immune system, Optic nerve, Central nervous system (CNS).

(i) STOT-repeated exposure; No data available

Target Organs No information available.

(j) aspiration hazard; No data available

Symptoms / effects,both acute and delayed Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

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)		
Methanol	LC50: 13500 - 17600 mg/L, 96h flow-through (Lepomis macrochirus) LC50: 18 - 20 mL/L, 96h static (Oncorhynchus mykiss) LC50: 19500 - 20700 mg/L, 96h flow-through (Oncorhynchus mykiss) LC50: > 100 mg/L, 96h static (Pimephales promelas) LC50: = 28200 mg/L, 96h flow-through (Pimephales promelas)		
Acetic acid	Pimephales promelas: LC50 = 88 mg/L/96h Lepomis macrochirus: LC50 = 75 mg/L/96h	EC50 = 95 mg/L/24h	-

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	

12.2. Persistence and degradability

Persistence Soluble in water, Persistence is unlikely, based on information available.

12.3. Bioaccumulative potential Bioaccumulation is unlikely

Component	log Pow	Bioconcentration factor (BCF)
2-Methoxyethanol	-0.85	No data available
Methanol	-0.77	<10
Acetic acid	-0.2	No data available

12.4. Mobility in soil The product is water soluble, and may spread in water systems . Will likely be mobile in the environment due to its water solubility. Highly mobile in soils

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	Waste is classified as hazardous. Can be landfilled or incinerated, when in compliance with local regulations. Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations.
Contaminated Packaging	Dispose of in accordance with local regulations. 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

14.1. UN number	UN1993
14.2. UN proper shipping name	Flammable liquid, toxic, n.o.s. METHANOL SOLUTION
14.3. Transport hazard class(es)	3
14.4. Packing group	III

ADR

14.1. UN number	UN1993
14.2. UN proper shipping name	Flammable liquid, toxic, n.o.s. METHANOL SOLUTION
14.3. Transport hazard class(es)	3
14.4. Packing group	III

IATA

14.1. UN number	UN1993
14.2. UN proper shipping name	Flammable liquid, toxic, n.o.s. METHANOL SOLUTION
14.3. Transport hazard class(es)	3
14.4. Packing group	III

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
Methanol	67-56-1	200-659-6	-	-	X	X	KE-23193	X	X
Acetic acid	64-19-7	200-580-7	-	-	X	X	X	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
Methanol	67-56-1	X	ACTIVE	X	-	X	X	X
Acetic acid	64-19-7	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
Methanol	-	Use restricted. See item 69. (see link for restriction details)	-
Acetic acid	-	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
Methanol	67-56-1	500 tonne	5000 tonne
Acetic acid	64-19-7	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 = 2 (self classification)

Component	Germany - Water Classification (VwVwS)	Germany - TA-Luft Class
2-Methoxyethanol	WGK 2	
Methanol	WGK2	
Acetic acid	WGK1	Class II : 0.10 g/m³ (Massenkonzentration)

Component	France - INRS (Tables of occupational diseases)
2-Methoxyethanol	Tableaux des maladies professionnelles (TMP) - RG 84
Methanol	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 (16)		Group I	
Methanol 67-56-1 (16)	Prohibited and Restricted Substances	Group I	
Acetic acid 64-19-7 (6.6)	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
H225 - Highly flammable liquid and vapor
H331 - Toxic if inhaled
H314 - Causes severe skin burns and eye damage
H318 - Causes serious eye damage
H360FD - May damage fertility. May damage the unborn child
H370 - Causes damage to organs
H301 - Toxic if swallowed
H302 - Harmful if swallowed
H311 - Toxic in contact with skin
H312 - Harmful in contact with skin
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.

Prepared By	Regulatory Affairs on behalf of Thermo Fisher Scientific Australia
Creation Date	21-Feb-2011
Revision Date	10-Dec-2021
Revision Summary	Not applicable.

This safety data sheet complies with the requirements of Safe Work Australia WHS Regulation. 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