SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Creation Date 22-Feb-2011 **Revision Date** 09-Feb-2024 **Revision Number** 8

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

1.1. Product identifier

Product Description: Karl Fischer reagent
Cat No. : **J/4600/PB17, J/4600/PB15, J/4600/PB08**

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

EU entity/business name
Thermo Fisher Scientific
Janssen Pharmaceuticalaan 3a
2440 Geel, Belgium

UK entity/business name
Fisher Scientific UK
Bishop Meadow Road, Loughborough,
Leicestershire LE11 5RG, United Kingdom

Swiss distributor - Fisher Scientific AG
Neuhofstrasse 11, CH 4153 Reinach
Tel: +41 (0) 56 618 41 11
e-mail - infoch@thermofisher.com

E-mail address begel.sdsdesk@thermofisher.com

1.4. Emergency telephone number

Tel: 01509 231166
Chemtrec US: (800) 424-9300
Chemtrec EU: 001-703-527-3887

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

Flammable liquids	Category 2 (H225)

Health hazards

Acute oral toxicity	Category 3 (H301)
Acute dermal toxicity	Category 3 (H311)
Acute Inhalation Toxicity - Vapors	Category 3 (H331)
Skin Corrosion/Irritation	Category 1 B (H314)
Serious Eye Damage/Eye Irritation	Category 1 (H318)
Specific target organ toxicity - (single exposure)	Category 1 (H370)
Specific target organ toxicity - (repeated exposure)	Category 1 (H372)

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
H225 - Highly flammable liquid and vapor
H301 + H311 + H331 - Toxic if swallowed, in contact with skin or if inhaled
H314 - Causes severe skin burns and eye damage
H370 - Causes damage to organs
H372 - Causes damage to organs through prolonged or repeated exposure

Precautionary Statements
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
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
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

2.3. Other hazards

Toxic to terrestrial vertebrates
This product does not contain any known or suspected endocrine disruptors

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

Component	CAS No	EC No	Weight %	CLP Classification - Regulation (EC) No 1272/2008
Methanol	67-56-1	200-659-6	50 - 60	Flam. Liq. 2 (H225) Acute Tox. 3 (H301) Acute Tox. 3 (H311) Acute Tox. 3 (H331) STOT SE 1 (H370)
Pyridine	110-86-1	203-809-9	15 - 25	Flam. Liq. 2 (H225) Acute Tox. 4 (H302) Acute Tox. 4 (H312) Acute Tox. 4 (H332) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319)
Iodine	7553-56-2	231-442-4	10 - 15	Acute Tox. 4 (H302) Acute Tox. 4 (H312) Acute Tox. 4 (H332) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) STOT SE 3 (H335) STOT RE 1 (H372) Aquatic Acute 1 (H400)
Sulfur dioxide	7446-09-5	EEC No. 231-195-2	10 - 15	Acute Tox. 3 (H331) Skin Corr. 1B (H314) Eye Dam. 1 (H318)

Component	Specific concentration limits (SCL's)	M-Factor	Component notes
Methanol	STOT Single Exp. 1 :: >= 10 STOT Single Exp. 2 :: 3 - < 10	-	-
Iodine	-	1	-

Components	Reach Registration Number	
Methanol	01-2119433307-44	
Iodine	01-2119485285-30	
Pyridine	01-2119493105-40	
Sulfur dioxide	01-2119485028-34	

Full text of Hazard Statements: see section 16

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

General Advice Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

Eye Contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Skin Contact Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.

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

Inhalation If not breathing, give artificial respiration. 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

Causes burns by all exposure routes. Difficulty in breathing. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting: Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting: Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation

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

Notes to Physician Treat symptomatically. Symptoms may be delayed.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media
CO_2, dry chemical, dry sand, alcohol-resistant foam. Water mist may be used to cool closed containers.

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. The product causes burns of eyes, skin and mucous membranes. Flammable. Containers may explode when heated. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back.

Hazardous Combustion Products
Carbon monoxide (CO), Carbon dioxide (CO_2), Nitrogen oxides (NOx), Sulfur oxides.

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

Use personal protective equipment as required. Ensure adequate ventilation. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Remove all sources of ignition. Take precautionary measures against static discharges.

6.2. Environmental precautions

Do not flush into surface water or sanitary sewer system.

6.3. Methods and material for containment and cleaning up

Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

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

Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Use only under a chemical fume hood. Do not breathe mist/vapors/spray. Do not ingest. If swallowed then seek immediate medical assistance. Keep away from open flames, hot surfaces and sources of ignition. Use only non-sparking tools. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Take precautionary measures against static discharges.

Hygiene Measures
When using do not eat, drink or smoke. Provide regular cleaning of equipment, work area and clothing.

7.2. Conditions for safe storage, including any incompatibilities

Keep containers tightly closed in a dry, cool and well-ventilated place. Flammables area. Keep away from heat, sparks and flame. Corrosives area.

Technical Rules for Hazardous Substances (TRGS) 510 Storage Class (LGK) (Germany) Class 3

Switzerland - Storage of hazardous substances Storage class - SC 3
https://www.kvu.ch/de/themen/stoffe-und-produkte
https://www.kvu.ch/fr/themes/substances-et-produits
https://www.kvu.ch/it/temi/sostanze-e-prodotti

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, Forth edition. Published 2020. **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 Arbeitsplatz) 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
Methanol	TWA: 200 ppm 8 hr TWA: 260 mg/m³ 8 hr Skin	WEL - TWA: 200 ppm TWA; 266 mg/m³ TWA WEL - STEL: 250 ppm STEL; 333 mg/m³ STEL	TWA / VME: 200 ppm (8 heures). restrictive limit TWA / VME: 260 mg/m³ (8 heures). restrictive limit STEL / VLCT: 1000 ppm. restrictive limit STEL / VLCT: 1300 mg/m³. restrictive limit 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
Pyridine		STEL: 10 ppm 15 min STEL: 33 mg/m³ 15 min TWA: 5 ppm 8 hr TWA: 16 mg/m³ 8 hr	TWA / VME: 5 ppm (8 heures). TWA / VME: 15 mg/m³ (8 heures). STEL / VLCT: 10 ppm. STEL / VLCT: 30 mg/m³.	TWA: 1 ppm 8 uren TWA: 3.3 mg/m³ 8 uren	TWA / VLA-ED: 1 ppm (8 horas) TWA / VLA-ED: 3 mg/m³ (8 horas)
Iodine		STEL: 0.1 ppm 15 min STEL: 1.1 mg/m³ 15 min	STEL / VLCT: 0.1 ppm. STEL / VLCT: 1 mg/m³.	TWA: 0.01 ppm 8 uren TWA: 0.1 mg/m³ 8 uren STEL: 0.1 ppm 15 minuten STEL: 1 mg/m³ 15	STEL / VLA-EC: 0.1 ppm (15 minutos). STEL / VLA-EC: 1 mg/m³ (15 minutos). TWA / VLA-ED: 0.01

				minuten	ppm (8 horas) TWA / VLA-ED: 0.1 mg/m³ (8 horas)
Sulfur dioxide	TWA: 1.3 mg/m³ (8h) TWA: 0.5 ppm (8h) STEL: 2.7 mg/m³ (15min) STEL: 1 ppm (15min)	STEL: 1 ppm 15 min STEL: 2.7 mg/m³ 15 min TWA: 0.5 ppm 8 hr TWA: 1.3 mg/m³ 8 hr	TWA / VME: 0.5 ppm (8 heures). TWA / VME: 1.3 mg/m³ (8 heures). STEL / VLCT: 1 ppm. indicative limit STEL / VLCT: 2.7 mg/m³. indicative limit	TWA: 0.5 ppm 8 uren TWA: 1.3 mg/m³ 8 uren STEL: 1 ppm 15 minuten STEL: 2.7 mg/m³ 15 minuten	STEL / VLA-EC: 2 ppm (15 minutos). STEL / VLA-EC: 5.28 mg/m³ (15 minutos). TWA / VLA-ED: 0.5 ppm (8 horas) TWA / VLA-ED: 1.32 mg/m³ (8 horas)

Component	Italy	Germany	Portugal	The Netherlands	Finland
Methanol	TWA: 200 ppm 8 ore. Time Weighted Average TWA: 260 mg/m³ 8 ore. Time Weighted Average Pelle	100 ppm TWA MAK; 130 mg/m³ TWA MAKSkin absorber	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
Pyridine		Haut	TWA: 5 ppm 8 horas TWA: 15 mg/m³ 8 horas	TWA: 0.9 mg/m³ 8 uren	TWA: 1 ppm 8 tunteina TWA: 3 mg/m³ 8 tunteina STEL: 5 ppm 15 minuutteina STEL: 16 mg/m³ 15 minuutteina Iho
Iodine		Haut	STEL: 0.1 ppm 15 minutos TWA: 0.01 ppm 8 horas		STEL: 0.1 ppm 15 minuutteina STEL: 1.1 mg/m³ 15 minuutteina Iho
Sulfur dioxide	TWA: 1.3 mg/m³ 8 ore. Time Weighted Average TWA: 0.5 ppm 8 ore. Time Weighted Average STEL: 2.7 mg/m³ 15 minuti. Short-term STEL: 1 ppm 15 minuti. Short-term	TWA: 1 ppm TWA: 2.5 mg/m³	STEL: 1 ppm 15 minutos STEL: 2.7 mg/m³ 15 minutos TWA: 0.5 ppm 8 horas TWA: 1.3 mg/m³ 8 horas	STEL: 0.7 mg/m³ MAC: 2 ppm MAC: 5 mg/m³	TWA: 0.5 ppm 8 tunteina TWA: 1.3 mg/m³ 8 tunteina STEL: 1 ppm 15 minuutteina STEL: 2.7 mg/m³ 15 minuutteina

Component	Austria	Denmark	Switzerland	Poland	Norway
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 STEL: 400 ppm 15 minutter STEL: 520 mg/m³ 15 minutter 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
Pyridine	Haut MAK-KZGW: 20 ppm 15 Minuten MAK-KZGW: 60 mg/m³ 15 Minuten MAK-TMW: 5 ppm 8 Stunden MAK-TMW: 15 mg/m³ 8 Stunden	TWA: 5 ppm 8 timer TWA: 15 mg/m³ 8 timer STEL: 10 ppm 15 minutter STEL: 30 mg/m³ 15 minutter	STEL: 10 ppm 15 Minuten STEL: 30 mg/m³ 15 Minuten TWA: 5 ppm 8 Stunden TWA: 15 mg/m³ 8 Stunden	TWA: 5 mg/m³ 8 godzinach	TWA: 5 ppm 8 timer TWA: 15 mg/m³ 8 timer STEL: 10 ppm 15 minutter. value calculated STEL: 22.5 mg/m³ 15 minutter. value calculated
Iodine	Haut MAK-KZGW: 0.1 ppm 15 Minuten MAK-KZGW: 1 mg/m³ 15 Minuten MAK-TMW: 0.1 ppm 8 Stunden MAK-TMW: 1 mg/m³ 8 Stunden	Ceiling: 0.1 ppm Ceiling: 1 mg/m³	Haut/Peau STEL: 0.1 ppm 15 Minuten STEL: 1 mg/m³ 15 Minuten TWA: 0.1 ppm 8 Stunden TWA: 1 mg/m³ 8 Stunden	STEL: 1 mg/m³ 15 minutach TWA: 0.5 mg/m³ 8 godzinach	Ceiling: 0.1 ppm Ceiling: 1 mg/m³

	Ceiling: 0.1 ppm Ceiling: 1 mg/m³				
Sulfur dioxide	MAK-KZGW: 1 ppm 15 Minuten MAK-KZGW: 2.7 mg/m³ 15 Minuten MAK-TMW: 0.5 ppm 8 Stunden MAK-TMW: 1.3 mg/m³ 8 Stunden	TWA: 0.5 ppm 8 timer TWA: 1.3 mg/m³ 8 timer STEL: 2.7 mg/m³ 15 minutter STEL: 1 ppm 15 minutter	STEL: 1 ppm 15 Minuten STEL: 2.7 mg/m³ 15 Minuten TWA: 0.5 ppm 8 Stunden TWA: 1.3 mg/m³ 8 Stunden	STEL: 2.7 mg/m³ 15 minutach TWA: 1.3 mg/m³ 8 godzinach	TWA: 0.5 ppm 8 timer TWA: 1.3 mg/m³ 8 timer STEL: 1 ppm 15 minutter. value from the regulation STEL: 2.7 mg/m³ 15 minutter. value from the regulation

Component	Bulgaria	Croatia	Ireland	Cyprus	Czech Republic
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
Pyridine	TWA: 15.0 mg/m³	TWA-GVI: 5 ppm 8 satima. TWA-GVI: 15 mg/m³ 8 satima.	TWA: 5 ppm 8 hr. TWA: 15 mg/m³ 8 hr. STEL: 10 ppm 15 min STEL: 30 mg/m³ 15 min	TWA: 5 ppm TWA: 15 mg/m³	TWA: 5 mg/m³ 8 hodinách. Potential for cutaneous absorption Ceiling: 10 mg/m³
Iodine	TWA: 3.0 mg/m³	STEL-KGVI: 0.1 ppm 15 minutama. STEL-KGVI: 1.1 mg/m³ 15 minutama.	TWA: 0.01 ppm 8 hr. inhalable fraction and vapour TWA: 0.01 mg/m³ 8 hr. STEL: 0.1 ppm 15 min		TWA: 0.1 mg/m³ 8 hodinách. Ceiling: 1 mg/m³
Sulfur dioxide	TWA: 1.3 mg/m³ TWA: 0.5 ppm STEL : 2.7 mg/m³ STEL : 1 ppm	TWA-GVI: 0.5 ppm 8 satima. TWA-GVI: 1.3 mg/m³ 8 satima. STEL-KGVI: 1 ppm 15 minutama. STEL-KGVI: 2.7 mg/m³ 15 minutama.	TWA: 0.5 ppm 8 hr. TWA: 1.3 mg/m³ 8 hr. STEL: 2.7 mg/m³ 15 min STEL: 1 ppm 15 min	STEL: 2.7 mg/m³ STEL: 1 ppm TWA: 1.3 mg/m³ TWA: 0.5 ppm	TWA: 1.3 mg/m³ 8 hodinách. Ceiling: 2.7 mg/m³

Component	Estonia	Gibraltar	Greece	Hungary	Iceland
Methanol	Nahk TWA: 200 ppm 8 tundides. TWA: 250 mg/m³ 8 tundides. STEL: 250 ppm 15 minutites. STEL: 350 mg/m³ 15 minutites.	Skin notation TWA: 200 ppm 8 hr TWA: 260 mg/m³ 8 hr	skin - potential for cutaneous absorption STEL: 250 ppm STEL: 325 mg/m³ TWA: 200 ppm TWA: 260 mg/m³	TWA: 260 mg/m³ 8 órában. AK lehetséges borön keresztüli felszívódás	TWA: 200 ppm 8 klukkustundum. TWA: 260 mg/m³ 8 klukkustundum. Skin notation Ceiling: 400 ppm Ceiling: 520 mg/m³
Pyridine	TWA: 5 ppm 8 tundides. TWA: 15 mg/m³ 8 tundides.	TWA: 5 ppm 8 hr existing scientific data on health effects appear to be particularly limited TWA: 15 mg/m³ 8 hr existing scientific data on health effects appear to be particularly limited	STEL: 10 ppm STEL: 30 mg/m³ TWA: 5 ppm TWA: 15 mg/m³	STEL: 30 mg/m³ 15 percekben. CK TWA: 15 mg/m³ 8 órában. AK lehetséges borön keresztüli felszívódás	TWA: 5 ppm 8 klukkustundum. TWA: 15 mg/m³ 8 klukkustundum. Ceiling: 10 ppm Ceiling: 30 mg/m³
Iodine	STEL: 0.1 ppm 15 minutites. STEL: 1 mg/m³ 15 minutites.		STEL: 0.1 ppm STEL: 1 mg/m³ TWA: 0.1 ppm TWA: 1 mg/m³	STEL: 1 mg/m³ 15 percekben. CK TWA: 1 mg/m³ 8 órában. AK lehetséges borön keresztüli felszívódás	STEL: 0.1 ppm STEL: 1 mg/m³
Sulfur dioxide	TWA: 0.5 ppm 8 tundides. TWA: 1.3 mg/m³ 8 tundides. STEL: 1 ppm 15 minutites. STEL: 2.7 mg/m³ 15 minutites.	TWA: 1.3 mg/m³ 8 hr TWA: 0.5 ppm 8 hr STEL: 2.7 mg/m³ 15 min STEL: 1 ppm 15 min	STEL: 1 ppm STEL: 2.7 mg/m³ TWA: 0.5 ppm TWA: 1.3 mg/m³	STEL: 2.7 mg/m³ 15 percekben. CK TWA: 1.3 mg/m³ 8 órában. AK	STEL: 1 ppm STEL: 2.7 mg/m³ TWA: 0.5 ppm 8 klukkustundum. TWA: 1.3 mg/m³ 8 klukkustundum.

Component	Latvia	Lithuania	Luxembourg	Malta	Romania
Methanol	skin - potential for	TWA: 200 ppm IPRD	Possibility of significant	possibility of significant	Skin notation

	cutaneous exposure TWA: 200 ppm TWA: 260 mg/m³	TWA: 260 mg/m³ IPRD Oda	uptake through the skin TWA: 200 ppm 8 Stunden TWA: 260 mg/m³ 8 Stunden	uptake through the skin TWA: 200 ppm TWA: 260 mg/m³	TWA: 200 ppm 8 ore TWA: 260 mg/m³ 8 ore
Pyridine	TWA: 5 ppm TWA: 15 mg/m³	TWA: 5 ppm IPRD TWA: 15 mg/m³ IPRD	TWA: 5 ppm 8 Stunden TWA: 15 mg/m³ 8 Stunden	TWA: 5 ppm TWA: 15 mg/m³	TWA: 5 ppm 8 ore TWA: 15 mg/m³ 8 ore
Iodine	TWA: 1 mg/m³	Ceiling: 0.1 ppm Ceiling: 1 mg/m³			TWA: 0.09 ppm 8 ore TWA: 0.5 mg/m³ 8 ore STEL: 0.2 ppm 15 minute STEL: 1 mg/m³ 15 minute
Sulfur dioxide	STEL: 2.7 mg/m³ STEL: 1 ppm TWA: 1.3 mg/m³ TWA: 0.5 ppm	TWA: 1.3 mg/m³ IPRD TWA: 0.5 ppm IPRD STEL: 2.7 mg/m³ STEL: 1 ppm	TWA: 1.3 mg/m³ 8 Stunden TWA: 0.5 ppm 8 Stunden STEL: 2.7 mg/m³ 15 Minuten STEL: 1 ppm 15 Minuten	TWA: 0.5 ppm TWA: 1.3 mg/m³ STEL: 1 ppm 15 minuti STEL: 2.7 mg/m³ 15 minuti	TWA: 0.5 ppm 8 ore TWA: 1.3 mg/m³ 8 ore STEL: 1 ppm 15 minute STEL: 2.7 mg/m³ 15 minute

Component	Russia	Slovak Republic	Slovenia	Sweden	Turkey
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 Kože 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
Pyridine	MAC: 5 mg/m³	TWA: 5 ppm TWA: 15 mg/m³	TWA: 5 ppm 8 urah TWA: 15 mg/m³ 8 urah	Indicative STEL: 3 ppm 15 minuter Indicative STEL: 10 mg/m³ 15 minuter TLV: 2 ppm 8 timmar. NGV TLV: 7 mg/m³ 8 timmar. NGV	TWA: 5 ppm 8 saat TWA: 15 mg/m³ 8 saat
Iodine	Skin notation MAC: 1 mg/m³	Ceiling: 1.1 mg/m³ TWA: 0.1 ppm TWA: 1.1 mg/m³		Binding STEL: 0.1 ppm 15 minuter Binding STEL: 1 mg/m³ 15 minuter	
Sulfur dioxide	Skin notation MAC: 10 mg/m³	Ceiling: 2.7 mg/m³ TWA: 0.5 ppm TWA: 1.3 mg/m³	TWA: 0.5 ppm 8 urah TWA: 1.3 mg/m³ 8 urah STEL: 1 ppm 15 minutah STEL: 2.7 mg/m³ 15 minutah	Binding STEL: 1 ppm 15 minuter Binding STEL: 2.7 mg/m³ 15 minuter TLV: 0.5 ppm 8 timmar. NGV TLV: 1.3 mg/m³ 8 timmar. NGV	

Biological limit values

List source(s):

Component	European Union	United Kingdom	France	Spain	Germany
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.
MDHS70 General methods for sampling airborne gases and vapours
MDHS 88 Volatile organic compounds in air. Laboratory method using diffusive samplers, solvent desorption and gas chromatography
MDHS 96 Volatile organic compounds in air - Laboratory method using pumped solid sorbent tubes, solvent desorption and gas chromatography

Derived No Effect Level (DNEL) / Derived Minimum Effect Level (DMEL)

See table for values

Component	Acute effects local (Dermal)	Acute effects systemic (Dermal)	Chronic effects local (Dermal)	Chronic effects systemic (Dermal)
Methanol 67-56-1 (50 - 60)		DNEL = 20mg/kg bw/day		DNEL = 20mg/kg bw/day
Pyridine 110-86-1 (15 - 25)		DNEL = 0.42mg/kg bw/day		DNEL = 0.14mg/kg bw/day
Iodine 7553-56-2 (10 - 15)				DNEL = 0.01mg/kg bw/day

Component	Acute effects local (Inhalation)	Acute effects systemic (Inhalation)	Chronic effects local (Inhalation)	Chronic effects systemic (Inhalation)
Methanol 67-56-1 (50 - 60)	DNEL = 130mg/m³	DNEL = 130mg/m³	DNEL = 130mg/m³	DNEL = 130mg/m³
Pyridine 110-86-1 (15 - 25)		DNEL = 7.5mg/m³		DNEL = 2.5mg/m³
Iodine 7553-56-2 (10 - 15)				DNEL = 0.07mg/m³
Sulfur dioxide 7446-09-5 (10 - 15)	DNEL = 2.7mg/m³		DNEL = 2.7mg/m³	

Predicted No Effect Concentration (PNEC)

See values below.

Component	Fresh water	Fresh water sediment	Water Intermittent	Microorganisms in sewage treatment	Soil (Agriculture)
Methanol 67-56-1 (50 - 60)	PNEC = 20.8mg/L	PNEC = 77mg/kg sediment dw	PNEC = 1540mg/L	PNEC = 100mg/L	PNEC = 100mg/kg soil dw
Pyridine 110-86-1 (15 - 25)	PNEC = 0.3mg/L	PNEC = 3.2mg/kg sediment dw	PNEC = 3mg/L	PNEC = 2mg/L	PNEC = 0.46mg/kg soil dw
Iodine 7553-56-2 (10 - 15)	PNEC = 18.13µg/L	PNEC = 3.99mg/kg sediment dw		PNEC = 11mg/L	PNEC = 5.95mg/kg soil dw

Component	Marine water	Marine water sediment	Marine water Intermittent	Food chain	Air
Methanol 67-56-1 (50 - 60)	PNEC = 2.08mg/L	PNEC = 7.7mg/kg sediment dw			
Pyridine 110-86-1 (15 - 25)	PNEC = 0.03mg/L	PNEC = 0.32mg/kg sediment dw			
Iodine 7553-56-2 (10 - 15)	PNEC = 60.01µg/L	PNEC = 20.22mg/kg sediment dw			

8.2. Exposure controls

Engineering Measures
Use explosion-proof electrical/ventilating/lighting/equipment. Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas.
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 Tight sealing safety goggles Goggles (European standard - EN 166)

Hand Protection Protective gloves

Glove material	Breakthrough time	Glove thickness	EU standard	Glove comments
Viton (R)	< 120 minutes	0.70 mm	EN 374	(minimum requirement)
Butyl rubber	< 45 minutes	0.35 mm		

Skin and body protection Antistatic boots. Wear fire/flame resistant/retardant clothing. Impervious gloves.

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 Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced
Recommended Filter type: low boiling organic solvent Type AX Brown conforming to EN371

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.
Recommended half mask:- Valve filtering: EN405; or; Half mask: EN140; plus filter, EN 141
When RPE is used a face piece Fit Test should be conducted

Environmental exposure controls Prevent product from entering drains. Do not allow material to contaminate ground water system.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical State	Liquid	
Appearance	Dark brown	
Odor	pungent	
Odor Threshold	No data available	
Melting Point/Range	No data available	
Softening Point	No data available	
Boiling Point/Range	No information available	
Flammability (liquid)	Highly flammable	On basis of test data
Flammability (solid,gas)	Not applicable	Liquid
Explosion Limits	No data available	
Flash Point	12 °C / 53.6 °F	**Method -** No information available
Autoignition Temperature	No data available	
Decomposition Temperature	No data available	

pH	5.5	
Viscosity	No data available	
Water Solubility	Miscible	
Solubility in other solvents	No information available	
Partition Coefficient (n-octanol/water)		
Component	**log Pow**	
Methanol	-0.74	
Pyridine	0.65	
Iodine	2.49	
Vapor Pressure	No data available	
Density / Specific Gravity	0.93	
Bulk Density	Not applicable	Liquid
Vapor Density	No data available	(Air = 1.0)
Particle characteristics	Not applicable (liquid)	

9.2. Other information

Explosive Properties Vapors may form explosive mixtures with air

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. Keep away from open flames, hot surfaces and sources of ignition.

10.5. Incompatible materials

Strong oxidizing agents. Strong acids. Finely powdered metals.

10.6. Hazardous decomposition products

Carbon monoxide (CO). Carbon dioxide (CO_2). Nitrogen oxides (NOx). Sulfur oxides.

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 3
Dermal	Category 3
Inhalation	Category 3

Toxicology data for the components

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Methanol	LD50 = 1187 – 2769 mg/kg (Rat)	LD50 = 17100 mg/kg (Rabbit)	LC50 = 128.2 mg/L (Rat) 4 h
Pyridine	LD50 = 866 mg/kg (Rat)	LD50 1000 - 2000 mg/kg (Rabbit)	LC50 = 12.898 mg/L (Rat) 4 h

Iodine	315 mg/kg (Rat)	1425 mg/kg (Rabbit)	4.588 mg/L 4h (Rat)
Sulfur dioxide	-	-	Per CGA P-20: 2500 ppm/1hr (Rat)

(b) skin corrosion/irritation; Category 1 B

(c) serious eye damage/irritation; Category 1

(d) respiratory or skin sensitization;

Respiratory No data available

Skin No data available

Component	Test method	Test species	Study result
Methanol 67-56-1 (50 - 60)	OECD Test Guideline 406 Guinea Pig Maximisation Test (GPMT)	guinea pig	non-sensitising
Iodine 7553-56-2 (10 - 15)	OECD Test Guideline 429 Local Lymph Node Assay	mouse	non-sensitising

(e) germ cell mutagenicity; No data available

(f) carcinogenicity; No data available

The table below indicates whether each agency has listed any ingredient as a carcinogen

Component	EU	UK	Germany	IARC
Pyridine				Group 2B

(g) reproductive toxicity; No data available

Component	Test method	Test species / Duration	Study result
Methanol 67-56-1 (50 - 60)	OECD Test Guideline 416	Rat / Inhalation 2 Generation	NOAEC = 1.3 mg/l (air)

(h) STOT-single exposure; Category 1

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

(i) STOT-repeated exposure; Category 1

Target Organs Thyroid.

(j) aspiration hazard; No data available

Symptoms / effects,both acute and delayed Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation.

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 The product contains following substances which are hazardous for the environment. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Component	Freshwater Fish	Water Flea	Freshwater Algae
Methanol	Pimephales promelas: LC50 > 10000 mg/L 96h	EC50 > 10000 mg/L 24h	
Pyridine	LC50: = 4.6 mg/L, 96h static (Oncorhynchus mykiss) LC50: = 26 mg/L, 96h semi-static (Cyprinus carpio) LC50: 63.4 - 73.6 mg/L, 96h flow-through (Pimephales promelas)		
Iodine	LC50 = 1.67 mg/L 96h	EC50 = 0.55 mg/L 48h	EC50 = 0.13 mg/L 72h

Component	Microtox	M-Factor
Methanol	EC50 = 39000 mg/L 25 min EC50 = 40000 mg/L 15 min EC50 = 43000 mg/L 5 min	
Iodine	EC50 = 280 mg/L 3h	1

12.2. Persistence and degradability

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

Component	Degradability
Methanol 67-56-1 (50 - 60)	DT50 ~ 17.2d >94% after 20d

Degradation in sewage treatment plant Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants.

12.3. Bioaccumulative potential Bioaccumulation is unlikely

Component	log Pow	Bioconcentration factor (BCF)
Methanol	-0.74	<10 dimensionless
Pyridine	0.65	No data available
Iodine	2.49	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. 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. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep product and empty container away from heat and sources of ignition.
European Waste Catalogue (EWC)	According to the European Waste Catalog, Waste Codes are not product specific, but application specific.
Other Information	Do not flush to sewer. Waste codes should be assigned by the user based on the application for which the product was used. Can be landfilled or incinerated, when in compliance with local regulations. Do not empty into drains. Large amounts will affect pH and harm aquatic organisms.
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	UN1992
14.2. UN proper shipping name	Flammable liquid, toxic, n.o.s.
Technical Shipping Name	Contains Methanol
14.3. Transport hazard class(es)	3
Subsidiary Hazard Class	6.1
14.4. Packing group	II

ADR

14.1. UN number	UN1992
14.2. UN proper shipping name	Flammable liquid, toxic, n.o.s.
Technical Shipping Name	Contains Methanol
14.3. Transport hazard class(es)	3
Subsidiary Hazard Class	6.1
14.4. Packing group	II

IATA

14.1. UN number	UN1992
14.2. UN proper shipping name	Flammable liquid, toxic, n.o.s.
Technical Shipping Name	Contains Methanol
14.3. Transport hazard class(es)	3
Subsidiary Hazard Class	6.1
14.4. Packing group	II

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
Methanol	67-56-1	200-659-6	-	-	X	X	KE-23193	X	X
Pyridine	110-86-1	203-809-9	-	-	X	X	KE-29929	X	X
Iodine	7553-56-2	231-442-4	-	-	X	X	KE-21023	X	-
Sulfur dioxide	7446-09-5	231-195-2	-	-	X	X	KE-32567	X	X

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	DSL	NDSL	AICS	NZIoC	PICCS
Methanol	67-56-1	X	ACTIVE	X	-	X	X	X
Pyridine	110-86-1	X	ACTIVE	X	-	X	X	X
Iodine	7553-56-2	X	ACTIVE	X	-	X	X	X
Sulfur dioxide	7446-09-5	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	CAS No	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)
Methanol	67-56-1	-	Use restricted. See item 69. (see link for restriction details) Use restricted. See item 75. (see link for restriction details)	-
Pyridine	110-86-1	-	-	-
Iodine	7553-56-2	-	Use restricted. See item 75. (see link for restriction details)	-
Sulfur dioxide	7446-09-5	-	Use restricted. See item 75. (see link for restriction details)	-

REACH links
https://echa.europa.eu/substances-restricted-under-reach

Seveso III Directive (2012/18/EC)

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
Methanol	67-56-1	500 tonne	5000 tonne
Pyridine	110-86-1	Not applicable	Not applicable
Iodine	7553-56-2	Not applicable	Not applicable
Sulfur dioxide	7446-09-5	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

Contains component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS)?
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

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 (AwSV)	Germany - TA-Luft Class
Methanol	WGK 2	Class I : 20 mg/m³ (Massenkonzentration)
Pyridine	WGK2	Class I : 20 mg/m³ (Massenkonzentration)
Iodine	WGK2	
Sulfur dioxide	WGK1	

Component	France - INRS (Tables of occupational diseases)
Methanol	Tableaux des maladies professionnelles (TMP) - RG 84
Pyridine	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
Methanol 67-56-1 (50 - 60)	Prohibited and Restricted Substances	Group I	
Iodine 7553-56-2 (10 - 15)	Prohibited and Restricted Substances		

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
H301 - Toxic if swallowed
H311 - Toxic in contact with skin
H331 - Toxic if inhaled
H314 - Causes severe skin burns and eye damage
H318 - Causes serious eye damage
H370 - Causes damage to organs
H372 - Causes damage to organs through prolonged or repeated exposure
H225 - Highly flammable liquid and vapor
H302 - Harmful if swallowed
H312 - Harmful in contact with skin
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H332 - Harmful if inhaled
H335 - May cause respiratory irritation
H400 - Very toxic to aquatic life

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
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

KECL - Korean Existing and Evaluated 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.
Use of personal protective equipment, covering appropriate selection, compatibility, breakthrough thresholds, care, maintenance, fit and standards.
First aid for chemical exposure, including the use of eye wash and safety showers.
Chemical incident response training.
Fire prevention and fighting, identifying hazards and risks, static electricity, explosive atmospheres posed by vapours and dusts.

Creation Date	22-Feb-2011
Revision Date	09-Feb-2024
Revision Summary	Not applicable.

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).

End of Safety Data Sheet