

Creation Date 05-Jan-2011

Revision Date 17-Jul-2025

Revision Number 13

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

### 1.1. Product identifier

**Product Description:** Aqualine™ Electrolyte A (Anolyte for general use)  
**Cat No. :** K/2500/08  
**Synonyms** Karl Fischer reagent

**Unique Formula Identifier (UFI)** EUEH-X215-3X07-SD38

### 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

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

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

**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

**Poison Centre - Emergency information services**  
**Ireland :** National Poisons Information Centre (NPIC) -  
**01 809 2166** (8am-10pm, 7 days a week)  
**Malta :** +356 2395 2000  
**Cyprus :** +357 2240 5611

## SECTION 2: HAZARDS IDENTIFICATION

### 2.1. Classification of the substance or mixture

GHS Classification - According to GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567

#### Physical hazards

Flammable liquids

Category 2 (H225)

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## 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)
Carcinogenicity	Category 2 (H351)
Reproductive Toxicity	Category 2 (H361d)
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  
H351 - Suspected of causing cancer  
H361d - Suspected of damaging the unborn child  
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  
P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower  
P280 - Wear protective gloves/protective clothing/eye protection/face protection  
P301 + P330 + P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting  
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  
P308 + P313 - IF exposed or concerned: Get medical advice/attention

## Additional EU labelling

For use in industrial installations only

## 2.3. Other hazards

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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 %	GHS Classification - According to GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567
Methyl alcohol	67-56-1	200-659-6	25-50	Flam. Liq. 2 (H225) Acute Tox. 3 (H301) Acute Tox. 3 (H311) Acute Tox. 3 (H331) STOT SE 1 (H370)
Chloroform	67-66-3	200-663-8	10-20	Acute Tox. 4 (H302) Acute Tox. 3 (H331) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) STOT SE 3 (H336) Carc. 2 (H351) Repr. 2 (H361d) STOT RE 1 (H372)
2-Amino-2-methyl-1-propanol	124-68-5	EEC No. 204-709-8	10-20	Skin Irrit. 2 (H315) Eye Dam. 1 (H318) Aquatic Chronic 3 (H412)
2,4,6-Collidine	108-75-8	EEC No. 203-613-3	10-20	Flam Liq. 3 (H226) Acute Tox. 4 (H302) Acute Tox. 3 (H311) Acute Tox. 4 (H332) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) STOT SE 3 (H335)
Sulfur dioxide	7446-09-5	EEC No. 231-195-2	5-10	Press. Gas (H280) Skin Corr. 1B (H314) Eye Dam. 1 (H318) Acute Tox. 3 (H331) STOT SE 1 (H370)
Iodine	7553-56-2	231-442-4	5-10	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)
Toluene-4-sulfonic acid monohydrate	6192-52-5		0.1-1	Skin Corr. 1C (H314) Eye Dam. 1 (H318)

Component	Specific concentration limits (SCL's)	M-Factor	Component notes
Methyl alcohol	STOT Single Exp. 1 :: >= 10 STOT Single Exp. 2 :: 3 - < 10	-	-
Chloroform	STOT RE 2 : C ≥ 5 %	-	-
Iodine	-	1	-

Components	Reach Registration Number
Methanol	01-2119433307-44
Chloroform	01-2119486657-20
2-Amino-2-methyl-1-propanol	01-2119475788-16
Sulfur dioxide	01-2119485028-34
Iodine	01-2119485285-30

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Full text of Hazard Statements: see section 16

## SECTION 4: FIRST AID MEASURES

### 4.1. Description of first aid measures

<b>General Advice</b>	Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.
<b>Eye Contact</b>	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.
<b>Skin Contact</b>	Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.
<b>Ingestion</b>	Do NOT induce vomiting. Call a physician or poison control center immediately.
<b>Inhalation</b>	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.
<b>Self-Protection of the First Aider</b>	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. Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation: 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

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

<b>Notes to Physician</b>	Treat symptomatically. Symptoms may be delayed.
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## SECTION 5: FIREFIGHTING MEASURES

### 5.1. Extinguishing media

#### Suitable Extinguishing Media

Water mist may be used to cool closed containers. CO<sub>2</sub>, dry chemical, dry sand, 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. 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<sub>2</sub>), Nitrogen oxides (NO<sub>x</sub>), Chlorine, Hydrogen halides, Formaldehyde.

### 5.3. Advice for firefighters

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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**

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

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

### 7.3. Specific end use(s)

Use in laboratories

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1. Control parameters

#### **Exposure limits**

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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, Fourth edition. Published 2020. **IRE** - 2021 Code of Practice for the Chemical Agents Regulations, Schedule 1. Published by the Health and Safety Authority

Component	The United Kingdom	European Union	Ireland
Methyl alcohol	WEL - TWA: 200 ppm TWA; 266 mg/m <sup>3</sup> TWA WEL - STEL: 250 ppm STEL: 333 mg/m <sup>3</sup> STEL	TWA: 200 ppm 8 hr TWA: 260 mg/m <sup>3</sup> 8 hr Skin	TWA: 200 ppm 8 hr. TWA: 260 mg/m <sup>3</sup> 8 hr. STEL: 600 ppm 15 min STEL: 780 mg/m <sup>3</sup> 15 min Skin
Chloroform	TWA: 2 ppm TWA: 9.9 mg/m <sup>3</sup> STEL: 6 ppm STEL: 29.7 mg/m <sup>3</sup>	TWA: 2 ppm 8 hr TWA: 10 mg/m <sup>3</sup> 8 hr Possibility of significant uptake through the skin	TWA: 2 ppm 8 hr. TWA: 9.8 mg/m <sup>3</sup> 8 hr. STEL: 6 ppm 15 min STEL: 29.4 mg/m <sup>3</sup> 15 min Skin
Sulfur dioxide	STEL: 1 ppm 15 min STEL: 2.7 mg/m <sup>3</sup> 15 min TWA: 0.5 ppm 8 hr TWA: 1.3 mg/m <sup>3</sup> 8 hr	TWA: 1.3 mg/m <sup>3</sup> (8h) TWA: 0.5 ppm (8h) STEL: 2.7 mg/m <sup>3</sup> (15min) STEL: 1 ppm (15min)	TWA: 0.5 ppm 8 hr. TWA: 1.3 mg/m <sup>3</sup> 8 hr. STEL: 2.7 mg/m <sup>3</sup> 15 min STEL: 1 ppm 15 min
Iodine	STEL: 0.1 ppm 15 min STEL: 1.1 mg/m <sup>3</sup> 15 min		TWA: 0.01 ppm 8 hr. inhalable fraction and vapour TWA: 0.01 mg/m <sup>3</sup> 8 hr. STEL: 0.1 ppm 15 min

## Biological limit values

List source(s):

## 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)
Methyl alcohol 67-56-1 ( 25-50 )		DNEL = 20mg/kg bw/day		DNEL = 20mg/kg bw/day
Chloroform 67-66-3 ( 10-20 )				DNEL = 0.94mg/kg bw/day
2-Amino-2-methyl-1-propanol 124-68-5 ( 10-20 )				DNEL = 7.3mg/kg bw/day
Iodine 7553-56-2 ( 5-10 )				DNEL = 0.01mg/kg bw/day

Component	Acute effects local (Inhalation)	Acute effects systemic (Inhalation)	Chronic effects local (Inhalation)	Chronic effects systemic (Inhalation)
Methyl alcohol 67-56-1 ( 25-50 )	DNEL = 130mg/m <sup>3</sup>	DNEL = 130mg/m <sup>3</sup>	DNEL = 130mg/m <sup>3</sup>	DNEL = 130mg/m <sup>3</sup>
Chloroform 67-66-3 ( 10-20 )		DNEL = 333mg/m <sup>3</sup>	DNEL = 2.5mg/m <sup>3</sup>	DNEL = 2.5mg/m <sup>3</sup>
2-Amino-2-methyl-1-propanol 124-68-5 ( 10-20 )				DNEL = 6.5mg/m <sup>3</sup>
Sulfur dioxide 7446-09-5 ( 5-10 )	DNEL = 2.7mg/m <sup>3</sup>		DNEL = 2.7mg/m <sup>3</sup>	
Iodine 7553-56-2 ( 5-10 )				DNEL = 0.07mg/m <sup>3</sup>

## Predicted No Effect Concentration (PNEC)

See values below.

Component	Fresh water	Fresh water	Water Intermittent	Microorganisms in	Soil (Agriculture)
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		sediment		sewage treatment	
Methyl alcohol 67-56-1 ( 25-50 )	PNEC = 20.8mg/L	PNEC = 77mg/kg sediment dw	PNEC = 1540mg/L	PNEC = 100mg/L	PNEC = 100mg/kg soil dw
Chloroform 67-66-3 ( 10-20 )	PNEC = 0.146mg/L	PNEC = 0.45mg/kg sediment dw	PNEC = 0.133mg/L	PNEC = 0.048mg/L	PNEC = 0.56mg/kg soil dw
2-Amino-2-methyl-1-propa nol 124-68-5 ( 10-20 )	PNEC = 0.188mg/L	PNEC = 0.71mg/kg sediment dw	PNEC = 1.88mg/L	PNEC = 10mg/L	PNEC = 0.03mg/kg soil dw
Iodine 7553-56-2 ( 5-10 )	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
Methyl alcohol 67-56-1 ( 25-50 )	PNEC = 2.08mg/L	PNEC = 7.7mg/kg sediment dw			
Chloroform 67-66-3 ( 10-20 )	PNEC = 0.015mg/L	PNEC = 0.09mg/kg sediment dw			
2-Amino-2-methyl-1-propa nol 124-68-5 ( 10-20 )	PNEC = 0.0188mg/L	PNEC = 0.071mg/kg sediment dw			
Iodine 7553-56-2 ( 5-10 )	PNEC = 60.01µg/L	PNEC = 20.22mg/kg sediment dw			

## 8.2. Exposure controls

### Engineering Measures

Use only under a chemical fume hood. 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

Goggles (European standard - EN 166)

#### Hand Protection

Protective gloves

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

#### Skin and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure 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.

Remove 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

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<b>Small scale/Laboratory use</b>	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. <b>Recommended half mask:-</b> Valve filtering: EN405; or; Half mask: EN140; plus filter, EN 141 When RPE is used a face piece Fit Test should be conducted
<b>Environmental exposure controls</b>	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

<b>Physical State</b>	Liquid	
<b>Appearance</b>		
<b>Odor</b>	Alcohol-like	
<b>Odor Threshold</b>	No data available	
<b>Melting Point/Range</b>	No data available	
<b>Softening Point</b>	No data available	
<b>Boiling Point/Range</b>	No information available	
<b>Flammability (liquid)</b>	Highly flammable	On basis of test data
<b>Flammability (solid,gas)</b>	Not applicable	Liquid
<b>Explosion Limits</b>	No data available	
<b>Flash Point</b>	10 °C / 50 °F	<b>Method -</b> No information available
<b>Autoignition Temperature</b>	No data available	
<b>Decomposition Temperature</b>	No data available	
<b>pH</b>	No information available	
<b>Viscosity</b>	No data available	
<b>Water Solubility</b>	Partially soluble	
<b>Solubility in other solvents</b>	No information available	
<b>Partition Coefficient (n-octanol/water)</b>		
<b>Component</b>	<b>log Pow</b>	
Methyl alcohol	-0.74	
Chloroform	2	
2-Amino-2-methyl-1-propanol	-0.63	
Iodine	2.49	
<b>Vapor Pressure</b>	No data available	
<b>Density / Specific Gravity</b>	1.16	
<b>Bulk Density</b>	Not applicable	Liquid
<b>Vapor Density</b>	No data available	(Air = 1.0)
<b>Particle characteristics</b>	Not applicable (liquid)	

### 9.2. Other information

<b>Explosive Properties</b>	Vapors may form explosive mixtures with air
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## SECTION 10: STABILITY AND REACTIVITY

<b>10.1. Reactivity</b>	None known, based on information available
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<b>10.2. Chemical stability</b>	Stable under normal conditions.
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## 10.3. Possibility of hazardous reactions

### Hazardous Polymerization Hazardous Reactions

Hazardous polymerization does not occur.  
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. Strong bases. Finely powdered metals.

## 10.6. Hazardous decomposition products

Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>). Nitrogen oxides (NO<sub>x</sub>). Chlorine. Hydrogen halides. Formaldehyde.

## 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
Methyl alcohol	LD50 = 1187 – 2769 mg/kg (Rat)	LD50 = 17100 mg/kg ( Rabbit )	LC50 = 128.2 mg/L ( Rat ) 4 h
Chloroform	LD50 = 908 mg/kg (rat) LD50 = 695 mg/kg ( Rat ) LD50 = 450 mg/kg ( Rat )	LD50 > 20 g/kg ( Rabbit )	LC50 = 10.5 mg/L ( Rat ) 4 h
2-Amino-2-methyl-1-propanol	LD50 = 2900 mg/kg ( Rat )	>2000 mg/kg ( Rabbit )	-
2,4,6-Collidine	400 mg/kg ( Rat )	1000 mg/kg ( Guinea Pig )	-
Sulfur dioxide	-	-	Per CGA P-20: 2500 ppm/1hr ( Rat )
Iodine	315 mg/kg ( Rat )	1425 mg/kg ( Rabbit )	4.588 mg/L 4h ( Rat )
Toluene-4-sulfonic acid monohydrate	2570 mg/kg (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
Methyl alcohol 67-56-1 ( 25-50 )	OECD Test Guideline 406 Guinea Pig Maximisation Test (GPMT)	guinea pig	non-sensitising
Iodine 7553-56-2 ( 5-10 )	OECD Test Guideline 429 Local Lymph Node Assay	mouse	non-sensitising

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(e) germ cell mutagenicity; No data available

(f) carcinogenicity; Category 2

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

Component	EU	UK	Germany	IARC
Chloroform				Group 2B

(g) reproductive toxicity; Category 2

Component	Test method	Test species / Duration	Study result
Methyl alcohol 67-56-1 ( 25-50 )	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, Respiratory system, Central nervous system (CNS).

(i) STOT-repeated exposure; Category 1

Route of exposure Inhalation  
Target Organs Liver, Kidney, Thyroid.

(j) aspiration hazard; No data available

**Symptoms / effects, both acute and delayed** Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation. 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.

## 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

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

Component	Freshwater Fish	Water Flea	Freshwater Algae
Methyl alcohol	Pimephales promelas: LC50 > 10000 mg/L 96h	EC50 > 10000 mg/L 24h	
Chloroform	LC50: = 300 mg/L, 96h static (Poecilia reticulata) LC50: = 18 mg/L, 96h flow-through (Lepomis macrochirus) LC50: = 18 mg/L, 96h flow-through (Oncorhynchus mykiss) LC50: = 71 mg/L, 96h flow-through (Pimephales promelas)	EC50 = 28.9 mg/L/48h	EC50 = 560 mg/L/48h

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2-Amino-2-methyl-1-propanol	LC50: = 190 mg/L, 96h static (Lepomis macrochirus)	EC50: = 193 mg/L, 48h (Daphnia magna)	EC50: = 520 mg/L, 72h (Desmodemus subspicatus)
Iodine	LC50 = 1.67 mg/L 96h	EC50 = 0.55 mg/L 48h	EC50 = 0.13 mg/L 72h

Component	Microtox	M-Factor
Methyl alcohol	EC50 = 39000 mg/L 25 min EC50 = 40000 mg/L 15 min EC50 = 43000 mg/L 5 min	
Chloroform	Photobacterium phosphoreum: EC50 = 520 mg/L/5 min Photobacterium phosphoreum: EC50 = 670 mg/L/15 min Photobacterium phosphoreum: EC50 = 670 mg/L/30min	
2-Amino-2-methyl-1-propanol	EC50: = 342.9 mg/L, 3 h (Activated Sludge) OECD 209	
Iodine	EC50 = 280 mg/L 3h	1

## 12.2. Persistence and degradability Not applicable for mixtures

Component	Degradability
Methyl alcohol 67-56-1 ( 25-50 )	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

There is no data for this product; Bioaccumulation is unlikely

Component	log Pow	Bioconcentration factor (BCF)
Methyl alcohol	-0.74	<10 dimensionless
Chloroform	2	1.4 - 13 dimensionless
2-Amino-2-methyl-1-propanol	-0.63	<1 dimensionless
Iodine	2.49	No data available

## 12.4. Mobility in soil

Contains organic solvents. Will likely be mobile in the environment due to its volatility. Disperses rapidly in air

## 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 Ozone Depletion Potential

This product does not contain any known or suspected substance  
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

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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.

## SECTION 14: TRANSPORT INFORMATION

### IMDG/IMO

<b>14.1. UN number</b>	UN1992
<b>14.2. UN proper shipping name</b>	FLAMMABLE LIQUID, TOXIC, N.O.S.
<b>Technical Shipping Name</b>	Contains methanol, chloroform
<b>14.3. Transport hazard class(es)</b>	3
<b>Subsidiary Hazard Class</b>	6.1
<b>14.4. Packing group</b>	II

### ADR

<b>14.1. UN number</b>	UN1992
<b>14.2. UN proper shipping name</b>	FLAMMABLE LIQUID, TOXIC, N.O.S.
<b>Technical Shipping Name</b>	Contains methanol, chloroform
<b>14.3. Transport hazard class(es)</b>	3
<b>Subsidiary Hazard Class</b>	6.1
<b>14.4. Packing group</b>	II

### IATA

<b>14.1. UN number</b>	UN1992
<b>14.2. UN proper shipping name</b>	FLAMMABLE LIQUID, TOXIC, N.O.S.
<b>Technical Shipping Name</b>	Contains methanol, chloroform
<b>14.3. Transport hazard class(es)</b>	3
<b>Subsidiary Hazard Class</b>	6.1
<b>14.4. Packing group</b>	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)

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Component	CAS No	EINECS	ELINCS	NLP	IECSC	TCSI	KECL	ENCS	ISHL
Methyl alcohol	67-56-1	200-659-6	-	-	X	X	KE-23193	X	X
Chloroform	67-66-3	200-663-8	-	-	X	X	X	X	X
2-Amino-2-methyl-1-propanol	124-68-5	204-709-8	-	-	X	X	KE-01473	X	X
2,4,6-Collidine	108-75-8	203-613-3	-	-	X	X	-	X	X
Sulfur dioxide	7446-09-5	231-195-2	-	-	X	X	KE-32567	X	X
Iodine	7553-56-2	231-442-4	-	-	X	X	KE-21023	X	-
Toluene-4-sulfonic acid monohydrate	6192-52-5	-	-	-	X	X	-	-	-

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	DSL	NDSL	AICS	NZIoC	PICCS
Methyl alcohol	67-56-1	X	ACTIVE	X	-	X	X	X
Chloroform	67-66-3	X	ACTIVE	X	-	X	X	X
2-Amino-2-methyl-1-propanol	124-68-5	X	ACTIVE	X	-	X	X	X
2,4,6-Collidine	108-75-8	X	ACTIVE	X	-	X	X	X
Sulfur dioxide	7446-09-5	X	ACTIVE	X	-	X	X	X
Iodine	7553-56-2	X	ACTIVE	X	-	X	X	X
Toluene-4-sulfonic acid monohydrate	6192-52-5	-	-	-	-	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)
Methyl alcohol	67-56-1	-	Use restricted. See entry 69. (see link for restriction details) Use restricted. See entry 75. (see link for restriction details)	-
Chloroform	67-66-3	-	Use restricted. See item 32. (see <a href="http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32006R1907:EN:NOT">http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32006R1907:EN:NOT</a> for restriction details)	-
2-Amino-2-methyl-1-propanol	124-68-5	-	Use restricted. See entry 75. (see link for restriction details)	-
2,4,6-Collidine	108-75-8	-	-	-
Sulfur dioxide	7446-09-5	-	Use restricted. See entry 75. (see link for restriction details)	-
Iodine	7553-56-2	-	Use restricted. See entry 75. (see link for restriction details)	-
Toluene-4-sulfonic acid monohydrate	6192-52-5	-	-	-

### REACH links

<https://echa.europa.eu/substances-restricted-under-reach>

### Seveso III Directive (2012/18/EC)

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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
Methyl alcohol	67-56-1	500 tonne	5000 tonne
Chloroform	67-66-3	Not applicable	Not applicable
2-Amino-2-methyl-1-propanol	124-68-5	Not applicable	Not applicable
2,4,6-Collidine	108-75-8	Not applicable	Not applicable
Sulfur dioxide	7446-09-5	Not applicable	Not applicable
Iodine	7553-56-2	Not applicable	Not applicable
Toluene-4-sulfonic acid monohydrate	6192-52-5	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

Component	ANNEX I - PART 1 List of chemicals subject to export notification procedure (referred to in Article 8)	ANNEX I - PART 2 List of chemicals qualifying for PIC notification (referred to in Article 11)	ANNEX I - PART 3 List of chemicals subject to the PIC procedure (referred to in Articles 13 and 14)
Chloroform 67-66-3 ( 10-20 )	b — ban (for the category or categories concerned)  b — ban (for the category or categories concerned)  i(2) — industrial chemical for public	-	-

<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32012R0649&qid=1604065742303>.

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

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 = 3 (self classification)

Component	Germany - Water Classification (AwSV)	Germany - TA-Luft Class
Methyl alcohol	WGK 2	Class I : 20 mg/m <sup>3</sup> (Massenkonzentration)
Chloroform	WGK 3	Class I : 20 mg/m <sup>3</sup> (Massenkonzentration)
2-Amino-2-methyl-1-propanol	WGK1	
Sulfur dioxide	WGK1	
Iodine	WGK2	

Component	France - INRS (Tables of occupational diseases)
Methyl alcohol	Tableaux des maladies professionnelles (TMP) - RG 84
Chloroform	Tableaux des maladies professionnelles (TMP) - RG 12

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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
Methyl alcohol 67-56-1 ( 25-50 )	Prohibited and Restricted Substances	Group I	
Chloroform 67-66-3 ( 10-20 )	Prohibited and Restricted Substances		Annex I - industrial chemical
Iodine 7553-56-2 ( 5-10 )	Prohibited and Restricted Substances		
Toluene-4-sulfonic acid monohydrate 6192-52-5 ( 0.1-1 )	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  
 H351 - Suspected of causing cancer  
 H361d - Suspected of damaging the unborn child  
 H372 - Causes damage to organs through prolonged or repeated exposure  
 H225 - Highly flammable liquid and vapor  
 H226 - 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  
 H336 - May cause drowsiness or dizziness  
 H400 - Very toxic to aquatic life  
 H412 - Harmful to aquatic life with long lasting effects

### 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

**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

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDL** - 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

**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

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**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** 05-Jan-2011

**Revision Date** 17-Jul-2025

**Revision Summary** 2, 3.

**This safety data sheet complies with Regulation UK SI 2019/758 and UK SI 2020/1577 as amended.**

## Disclaimer

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**End of Safety Data Sheet**