

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

### 1.1. Product identifier

<b>Trade name or designation of the mixture</b>	Cou-Lo® Formula A, Item #61001
<b>Registration number</b>	-
<b>Synonyms</b>	None.
<b>Product code</b>	61001
<b>Issue date</b>	07-03-2012
<b>Version number</b>	01

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

<b>Identified uses</b>	Laboratory reagent for water determination using the Karl Fischer method.
<b>Uses advised against</b>	None known.

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

#### Supplier

<b>Company name</b>	GR Scientific Ltd
<b>Address</b>	PO Box 242 Amphill Bedfordshire, MK45 5AQ UK
<b>Telephone</b>	Telephone + 44 (0) 1525 40 4747 Fax + 44 (0) 1525 40 4848
<b>e-mail</b>	Not available.
<b>Contact person</b>	Not available.

**1.4. Emergency telephone number** +44 (0) 1525 404747

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

The mixture has been assessed and/or tested for its physical, health and environmental hazards and the following classification applies.

#### Classification according to Directive 67/548/EEC or 1999/45/EC as amended

**Classification** R10, Carc. Cat. 3;R40, T;R23/24/25-39/23/24/25, Xn;R48/20/22, Xi;R38, R52

The full text for all R-phrases is displayed in section 16.

#### Hazard summary

<b>Physical hazards</b>	Flammable.
<b>Health hazards</b>	Toxic by inhalation, in contact with skin and if swallowed. Irritating to skin. Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed. Limited evidence of a carcinogenic effect. Harmful: Danger of serious damage to health by prolonged exposure through inhalation and if swallowed. Occupational exposure to the substance or mixture may cause adverse health effects.
<b>Environmental hazards</b>	Harmful to aquatic organisms.
<b>Specific hazards</b>	Flammable. Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed. Irritating to mouth, throat, and stomach. Limited evidence of a carcinogenic effect. Prolonged exposure may cause chronic effects. Danger of serious damage to health by prolonged exposure. Do not breathe dust/fume/gas/mist/vapors/spray. Harmful to aquatic organisms.
<b>Main symptoms</b>	Irritating to mouth, throat, and stomach. Skin irritation.

### 2.2. Label elements

#### Label according to Directive 67/548/EEC or 1999/45/EC as amended

<b>Contains:</b>	Chloroform, Iodine, METHYL ALCOHOL, SULFUR DIOXIDE, XYLENES
<b>EC number</b>	-



Toxic

**R-phrases**

R10 Flammable.  
 R23/24/25 Toxic by inhalation, in contact with skin and if swallowed.  
 R38 Irritating to skin.  
 R39/23/24/25 Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.  
 R40 Limited evidence of a carcinogenic effect.  
 R48/20/22 Harmful: Danger of serious damage to health by prolonged exposure through inhalation and if swallowed.  
 R52 Harmful to aquatic organisms.

**S-phrases**

S9 Keep container in a well-ventilated place.  
 S13 Keep away from food, drink and animal feeding stuffs.  
 S16 Keep away from sources of ignition - No smoking.  
 S20 When using do not eat or drink.  
 S23 Do not breathe gas/fumes/vapour/spray.  
 S24/25 Avoid contact with skin and eyes.  
 S29 Do not empty into drains.  
 S36/37 Wear suitable protective clothing and gloves.  
 S60 This material and its container must be disposed of as hazardous waste.

**Supplemental label information**

Not applicable.

**2.3. Other hazards**

Not assigned.

**SECTION 3: Composition/information on ingredients**

**3.2. Mixtures**

**General information**

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	INDEX No.	Notes
Chloroform	30 - < 40	67-66-3 200-663-8	-	602-006-00-4	#
<b>Classification:</b>	Carc. Cat. 3;R40, Xn;R48/20/22, Xi;R38				
XYLENES	30 - < 40	1330-20-7 215-535-7	-	601-022-00-9	#
<b>Classification:</b>	R10, Xn;R20/21, Xi;R38				
METHYL ALCOHOL	20 - < 30	67-56-1 200-659-6	-	603-001-00-X	#
<b>Classification:</b>	F;R11, T;R23/24/25-39/23/24/25				
TRADE SECRET	10 - < 20	Proprietary	-	-	
<b>Classification:</b>	Xn;R22, Xi;R36/37/38				
SULFUR DIOXIDE	3 - < 5	7446-09-5 231-195-2	-	-	
<b>Classification:</b>					
Iodine	1 - < 3	7553-56-2 231-442-4	-	053-001-00-3	
<b>Classification:</b>	Xn;R20/21, N;R50				

#: This substance has workplace exposure limit(s).  
 PBT: persistent, bioaccumulative and toxic substance.  
 vPvB: very persistent and very bioaccumulative substance.  
 #: This substance has been assigned Community workplace exposure limit(s).

**Composition comments**

The full text for all R-phrases is displayed in Section 16.

## SECTION 4: First aid measures

### General information

Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Take off contaminated clothing and shoes immediately. If you feel unwell, seek medical advice (show the label where possible). In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation.

### 4.1. Description of first aid measures

#### Inhalation

Move to fresh air. Oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a physician or poison control centre immediately.

#### Skin contact

Take off immediately all contaminated clothing. Immediately flush skin with plenty of water. Call a physician or Poison Control Centre immediately. For minor skin contact, avoid spreading material on unaffected skin. Wash clothing separately before reuse.

#### Eye contact

Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or Poison Control Centre immediately.

#### Ingestion

If swallowed, seek medical advice immediately and show this container or label. Rinse mouth thoroughly. Do not induce vomiting without medical advice. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Do not use mouth-to-mouth method if victim ingested the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Seek medical attention.

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

Irritating to mouth, throat, and stomach. Skin irritation.

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

Oxygen, if needed. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

## SECTION 5: Firefighting measures

### General fire hazards

Emits toxic fumes under fire conditions.

### 5.1. Extinguishing media

#### Suitable extinguishing media

Water fog. Carbon dioxide (CO<sub>2</sub>). Alcohol resistant foam. Powder.

#### Unsuitable extinguishing media

Do not use water jet as an extinguisher, as this will spread the fire. Water.

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

Fire may produce irritating, corrosive and/or toxic gases.

### 5.3. Advice for firefighters

#### Special protective equipment for firefighters

Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask. Structural firefighters protective clothing will only provide limited protection.

#### Special fire fighting procedures

Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Use standard firefighting procedures and consider the hazards of other involved materials. If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also consider initial evacuation for 800 meters (1/2 mile) in all directions. ALWAYS stay away from tanks engulfed in flame. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire. Move containers from fire area if you can do so without risk. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out.

## SECTION 6: Accidental release measures

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

#### For non-emergency personnel

Keep unnecessary personnel away. Wear appropriate protective equipment and clothing during clean-up. Fully encapsulating, vapour protective clothing should be worn for spills and leaks with no fire. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep upwind. Keep out of low areas. Ventilate closed spaces before entering them.

#### For emergency responders

Keep unnecessary personnel away. Use personal protection recommended in Section 8 of the MSDS.

### 6.2. Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not contaminate water. Contact local authorities in case of spillage to drain/aquatic environment. Avoid discharge into drains, water courses or onto the ground.

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

ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Should not be released into the environment. The product is immiscible with water and will spread on the water surface.

Large Spills: Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. This material and its container must be disposed of as hazardous waste. Following product recovery, flush area with water. Prevent entry into waterways, sewer, basements or confined areas. Clean up in accordance with all applicable regulations.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills in original containers for re-use. For waste disposal, see section 13.

For personal protection, see section 8. For waste disposal, see section 13.

### 6.4. Reference to other sections

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Vapours may form explosive mixtures with air. May be ignited by open flame. DO NOT handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Do not smoke. All equipment used when handling the product must be grounded. Do not breathe mist or vapour. Do not get this material in contact with eyes. Do not get this material in contact with skin. Do not get this material on clothing. Wear personal protective equipment. Avoid prolonged exposure. When using do not eat or drink. Wash thoroughly after handling. Avoid release to the environment. Do not empty into drains.

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

Do not handle or store near an open flame, heat or other sources of ignition. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Refrigeration recommended. Store in a well-ventilated place. Keep away from food, drink and animal feeding stuffs.

### 7.3. Specific end use(s)

Not available.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### Occupational exposure limits

##### UK. EH40 Workplace Exposure Limits (WELs)

Components	Type	Value
Chloroform (67-66-3)	TWA	9.9 mg/m <sup>3</sup> 2 ppm
Iodine (7553-56-2)	STEL	1.1 mg/m <sup>3</sup> 0.1 ppm
METHYL ALCOHOL (67-56-1)	STEL	333 mg/m <sup>3</sup>
	TWA	250 ppm 266 mg/m <sup>3</sup>
XYLENES (1330-20-7)	STEL	200 ppm 441 mg/m <sup>3</sup>
	TWA	100 ppm 220 mg/m <sup>3</sup> 50 ppm

##### EU. Indicative Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU

Components	Type	Value
Chloroform (67-66-3)	TWA	10 mg/m <sup>3</sup> 2 ppm
METHYL ALCOHOL (67-56-1)	TWA	260 mg/m <sup>3</sup>
XYLENES (1330-20-7)	STEL	200 ppm 442 mg/m <sup>3</sup>
	TWA	100 ppm 221 mg/m <sup>3</sup> 50 ppm

#### Biological limit values

##### UK. EH40 Biological Monitoring Guidance Values (BMGVs)

Components	Value	Determinant	Specimen	Sampling time
XYLENES (1330-20-7)	650 mmol/mol	Methyl hippuric acid	Creatinine in urine	Sampling time: End of shift.

<b>Recommended monitoring procedures</b>	Follow standard monitoring procedures.
<b>8.2. Exposure controls</b>	
<b>Appropriate engineering controls</b>	Ensure adequate ventilation, especially in confined areas.
<b>Individual protection measures, such as personal protective equipment</b>	
<b>General information</b>	Use personal protective equipment as required. Keep working clothes separately. Eye wash fountains are required. Emergency showers are required.
<b>Eye/face protection</b>	Do not get in eyes. Face-shield.
<b>Skin protection</b>	
- <b>Hand protection</b>	Rubber gloves. Wear protective gloves.
- <b>Other</b>	Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment. Do not get this material in contact with skin. Wear chemical protective equipment that is specifically recommended by the manufacturer. Chemical resistant gloves.
<b>Respiratory protection</b>	In case of insufficient ventilation, wear suitable respiratory equipment.
<b>Thermal hazards</b>	Not available.
<b>Hygiene measures</b>	When using, do not eat, drink or smoke. Do not get in eyes. Do not get this material in contact with skin. Handle in accordance with good industrial hygiene and safety practices.
<b>Environmental exposure controls</b>	Environmental manager must be informed of all major releases.

## SECTION 9: Physical and chemical properties

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

<b>Appearance</b>	Clear.
<b>Physical state</b>	Liquid.
<b>Form</b>	Liquid.
<b>Colour</b>	Colorless to light brown.
<b>Odour</b>	Characteristic.
<b>Odour threshold</b>	Not available.
<b>pH</b>	Not applicable.
<b>Melting point/freezing point</b>	-46.5 °C (-51.6 °F) estimated
<b>Initial boiling point and boiling range</b>	61 °C (141.8 °F)
<b>Flash point</b>	11.0 °C (51.8 °F)
<b>Evaporation rate</b>	Not applicable.
<b>Flammability (solid, gas)</b>	Not applicable.
<b>Upper/lower flammability or explosive limits</b>	
<b>Flammability limit - lower (%)</b>	> 6 %
<b>Flammability limit - upper (%)</b>	36 % estimated
<b>Explosive limit - lower (%)</b>	Not available.
<b>Explosive limit – upper (%)</b>	Not available.
<b>Vapour pressure</b>	129.67 hPa estimated
<b>Vapour density</b>	Not applicable.
<b>Relative density</b>	Not available.
<b>Solubility(ies)</b>	Not miscible.
<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Auto-ignition temperature</b>	392.24 °C (738.03 °F) estimated
<b>Decomposition temperature</b>	Not available.
<b>Viscosity</b>	Not applicable.
<b>Explosive properties</b>	Not available.
<b>Oxidizing properties</b>	Not available.

## 9.2. Other information

No relevant additional information available.

<b>Density</b>	1.20 g/cm <sup>3</sup>
<b>Flammability class</b>	Flammable IC estimated
<b>Flash point class</b>	Flammable IB
<b>Percent volatile</b>	75 %
<b>Specific gravity</b>	1.2
<b>VOC (Weight %)</b>	83.2 % estimated

## SECTION 10: Stability and reactivity

<b>10.1. Reactivity</b>	None known.
<b>10.2. Chemical stability</b>	Risk of ignition. Stable at normal conditions.
<b>10.3. Possibility of hazardous reactions</b>	No dangerous reaction known under conditions of normal use.
<b>10.4. Conditions to avoid</b>	Heat, flames and sparks. Avoid temperatures exceeding the flash point.
<b>10.5. Incompatible materials</b>	Oxidising material. Strong oxidizing agents.
<b>10.6. Hazardous decomposition products</b>	Toxic gas. Irritants. Hydrogen chloride. Irritating and/or toxic fumes and gases may be emitted upon the products decomposition. Carbon dioxide, carbon monoxide, oxides of sulfur and nitrogen.

## SECTION 11: Toxicological information

**General information** Not available.

### Information on likely routes of exposure

<b>Ingestion</b>	Toxic if swallowed.
<b>Inhalation</b>	Toxic by inhalation.
<b>Skin contact</b>	Toxic in contact with skin. Irritating to skin.
<b>Eye contact</b>	Not available.

**Symptoms** Irritating to mouth, throat, and stomach. Skin irritation.

### 11.1. Information on toxicological effects

**Acute toxicity** Causes burns.

<b>Product</b>	<b>Species</b>	<b>Test results</b>
Cou-Lo® Formula A, Item #61001 (Mixture)		
<b>Acute</b>		
<i>Inhalation</i>		
LC50	Guinea pig	16143 mg/l
	Mouse	7265 mg/l
	Rat	147 mg/l
LCL0	Rat	26667 mg/l
<i>Oral</i>		
LD50	Dog	6988 mg/kg
	Mouse	111 mg/kg
	Rabbit	29268 mg/kg
<b>Components</b>		
Chloroform (67-66-3)		
<b>Acute</b>		
<i>Inhalation</i>		
LC50	Rat	47.702 mg/l, 4 Hours
<i>Oral</i>		
LD50	Dog	2250 mg/kg
	Mouse	36 mg/kg
	Rabbit	9827 mg/kg
	Rat	2180 mg/kg
		1117 mg/kg
		908 mg/kg

Components	Species	Test results
		444 mg/kg
<i>Other</i>		
LD50	Dog	1000 mg/kg
	Mouse	623 mg/kg
	Rat	2000 mg/kg
Iodine (7553-56-2)		
<b>Acute</b>		
<i>Oral</i>		
LD50	Mouse	22 g/kg
	Rabbit	10 g/kg
	Rat	14 g/kg
METHYL ALCOHOL (67-56-1)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	15800 mg/kg
<i>Inhalation</i>		
LC50	Cat	43.68 mg/l, 6 Hours
	Rat	87.5 mg/l, 6 Hours
<i>Oral</i>		
LD50	Dog	8000 mg/kg
	Monkey	2 g/kg
	Mouse	7300 mg/kg
	Rabbit	14.4 g/kg
	Rat	5628 mg/kg
<i>Other</i>		
LD50	Guinea pig	3556 mg/kg
	Hamster	8555 mg/kg
	Monkey	3 g/kg
	Mouse	4100 mg/kg
	Rabbit	1826 mg/kg
	Rat	2131 mg/kg
SULFUR DIOXIDE (7446-09-5)		
<b>Acute</b>		
<i>Inhalation</i>		
LC50	Guinea pig	1000 mg/l, 20 Hours
		130 mg/l, 154 Hours
	Mouse	1000 mg/l, 4 Hours
		150 mg/l, 847 Hours
TRADE SECRET (Proprietary)		
<b>Acute</b>		
<i>Oral</i>		
LD50	Rat	970 mg/kg
XYLENES (1330-20-7)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	> 43 g/kg
<i>Inhalation</i>		
LC50	Mouse	3907 mg/l, 6 Hours
	Rat	6350 mg/l, 4 Hours

Components	Species	Test results
<i>Oral</i> LD50	Mouse	5627 mg/kg
		1590 mg/kg
	Rat	6670 mg/kg
		4300 mg/kg
		3523 - 8600 mg/kg

\* Estimates for product may be based on additional component data not shown.

<b>Skin corrosion/irritation</b>	Causes skin irritation.
<b>Serious eye damage/irritation</b>	Not available.
<b>Respiratory sensitisation</b>	Not available.
<b>Skin sensitisation</b>	Not available.
<b>Germ cell mutagenicity</b>	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
<b>Carcinogenicity</b>	Risk of cancer cannot be excluded with prolonged exposure.
<b>IARC Monographs. Overall Evaluation of Carcinogenicity</b>	
Chloroform (CAS 67-66-3)	2B Possibly carcinogenic to humans.
SULFUR DIOXIDE (CAS 7446-09-5)	3 Not classifiable as to carcinogenicity to humans.
XYLENES (CAS 1330-20-7)	3 Not classifiable as to carcinogenicity to humans.
<b>Reproductive toxicity</b>	Components in this product have been shown to cause birth defects and reproductive disorders in laboratory animals.
<b>Specific target organ toxicity - single exposure</b>	Not available.
<b>Specific target organ toxicity - repeated exposure</b>	Not available.
<b>Aspiration hazard</b>	Not available.
<b>Mixture versus substance information</b>	Not available.
<b>Other information</b>	Danger of very serious irreversible effects. Symptoms may be delayed.

## SECTION 12: Ecological information

**12.1. Toxicity** Contains a substance which causes risk of hazardous effects to the environment. Expected to be harmful to aquatic organisms.

Product	Species	Test results	
Cou-Lo® Formula A, Item #61001 (Mixture)	Crustacea	EC50 Daphnia 481 mg/l, 24 hours	
		LC50 Daphnia 936 mg/l, 216 hours	
	Fish	LC50 Fish	843 mg/l, 2 days
			262 mg/l, 72 hours
			199 mg/l, 24 hours
			113 mg/l, 48 hours
			39.56 mg/l, 96 hours
			6.8323 mg/l, 1 hours
			801 mg/l, 10 days
			178 mg/l, 48 hours
			140 mg/l, 12 hours
			130 mg/l, 72 hours
	128 mg/l, 1 hours		
	80.54 mg/l, 24 hours		
66.33 mg/l, 2 hours			
54.56 mg/l, 96 hours			



Product	Species		Test results
			53 mg/l, 4 hours
			45.33 mg/l, 8 hours
			36.67 mg/l, 16 hours
			6.3043 mg/l, 7 days
			5.8075 mg/l, 32 days
			5.1553 mg/l, 28 days
Components	Species		Test results
Chloroform (67-66-3)			
	<b>Aquatic</b>		
	Crustacea	EC50	Brine shrimp ( <i>Artemia salina</i> ) 34.3 - 39.9 mg/l, 24 hours
			Water flea ( <i>Daphnia magna</i> ) 602 mg/l, 24 hours
			79 mg/l, 24 hours
		LC50	Northern pink shrimp ( <i>Penaeus duorarum</i> ) 96.3 - 187 mg/l, 24 hours
			62.8 - 106 mg/l, 48 hours
			Ramshorn snail ( <i>Helisoma trivolvis</i> ) 232.4 mg/l, 96 hours
			Rotifer ( <i>Brachionus calyciflorus</i> ) 1.8 - 2.2 mg/l, 1 hours
			Scud ( <i>Gammarus minus</i> ) 199.2 - 301.4 mg/l, 96 hours
			Water flea ( <i>Ceriodaphnia dubia</i> ) 200 - 512 mg/l, 48 hours
			179 - 315 mg/l, 216 hours
			Water flea ( <i>Daphnia magna</i> ) 200 - 512 mg/l, 216 hours
			70.5 - 85.9 mg/l, 24 hours
			61.6 - 71.9 mg/l, 48 hours
			58.6 - 71.6 mg/l, 24 hours
			54.3 - 78 mg/l, 48 hours
			19 - 47 mg/l, 24 hours
			19 - 47 mg/l, 48 hours
	Fish	LC50	Bluegill ( <i>Lepomis macrochirus</i> ) 107 - 143 mg/l, 48 hours
			96 - 148 mg/l, 24 hours
			72 - 140 mg/l, 48 hours
			72 - 140 mg/l, 96 hours
			16.2 - 24.4 mg/l, 12 hours
			16.2 mg/l, 12 hours
			16.2 - 24.2 mg/l, 24 hours
			16.2 mg/l, 24 hours
			14.6 - 23.1 mg/l, 48 hours
			14.6 mg/l, 48 hours
			13.3 - 20.8 mg/l, 96 hours
			13.3 mg/l, 96 hours
			2.03 mg/l, 7 days
			Carp ( <i>Cyprinus carpio</i> ) 95 - 99 mg/l
			Carp ( <i>Leuciscus idus melanotus</i> ) 162 mg/l, 48 hours
			Channel catfish ( <i>Ictalurus punctatus</i> ) 126 mg/l, 12 hours
			126 mg/l, 24 hours
			101 mg/l, 48 hours
			75 mg/l, 96 hours
			Fathead minnow ( <i>Pimephales promelas</i> ) 8.47 - 94.87 mg/l, 96 hours
			8.47 - 94.87 mg/l, 96 hours

Components		Species	Test results
		Guppy ( <i>Poecilia reticulata</i> )	300 mg/l, 96 hours
		Ide, silver or golden orfe ( <i>Leuciscus idus</i> )	92 mg/l
		Largemouth bass ( <i>Micropterus salmoides</i> )	45.4 mg/l, 12 hours
			45.4 mg/l, 24 hours
			45.4 mg/l, 48 hours
			45.4 mg/l, 96 hours
		Medaka, high-eyes ( <i>Oryzias latipes</i> )	500 mg/l, 24 hours
			500 mg/l, 48 hours
			132 - 384 mg/l, 10 days
		Rainbow trout,donaldson trout ( <i>Oncorhynchus mykiss</i> )	24.5 - 37.1 mg/l, 12 hours
			20 - 26.1 mg/l, 24 hours
			20 mg/l, 24 hours
			18.6 mg/l, 48 hours
			18.6 - 23.6 mg/l, 48 hours
			15.1 mg/l, 96 hours
			15.1 - 22.1 mg/l, 96 hours
			1.24 mg/l, 28 days
			0.95 - 3.75 mg/l, 28 days
			0.95 - 3.75 mg/l, 32 days
			0.62 - 2.16 mg/l, 28 days
			0.62 - 2.16 mg/l, 32 days
		Zebra danio ( <i>Danio rerio</i> )	121 mg/l, 96 hours
			> 100 mg/l, 48 hours
			100 mg/l, 48 hours
Iodine (7553-56-2)			
<b>Aquatic</b>			
Crustacea	LC50	Water flea ( <i>Daphnia magna</i> )	0.55 - 1.32 mg/l, 96 hours
			0.03 - 1 mg/l, 48 hours
Fish	LC50	Guppy ( <i>Poecilia reticulata</i> )	3 mg/l, 24 hours
		Rainbow trout,donaldson trout ( <i>Oncorhynchus mykiss</i> )	> 0.01 mg/l, 96 hours
METHYL ALCOHOL (67-56-1)			
<b>Aquatic</b>			
Crustacea	EC50	Water flea ( <i>Daphnia magna</i> )	20450 - 29350 mg/l, 48 hours
			> 10000 mg/l, 24 hours
			> 10000 mg/l, 48 hours
		Water flea ( <i>Daphnia obtusa</i> )	22800 - 24400 mg/l, 24 hours
	LC50	Brine shrimp ( <i>Artemia salina</i> )	> 10000 mg/l, 24 hours
			703.7 - 1723.9 mg/l, 24 hours
		Cockle ( <i>Cerastoderma edule</i> )	3300 - 10000 mg/l, 96 hours
			1000 mg/l, 48 hours
		Common bay mussel,blue mussel ( <i>Mytilus edulis</i> )	13400 - 17300 mg/l, 96 hours
		Common shrimp, sand shrimp ( <i>Crangon crangon</i> )	2500 mg/l, 48 hours
			1700 mg/l, 96 hours
		Harpacticoid copepod ( <i>Nitocra spinipes</i> )	11500 - 12500 mg/l, 96 hours

Components		Species	Test results
		Mussel ( <i>Anodonta imbecillis</i> )	37.02 mg/l, 48 hours
		Oligochaete, worm ( <i>Lumbriculus variegatus</i> )	> 100 mg/l, 96 hours
		Ramshorn snail ( <i>Helisoma trivolvis</i> )	> 100 mg/l, 96 hours
		Scud ( <i>Gammarus fasciatus</i> )	> 100 mg/l, 96 hours
		Water flea ( <i>Daphnia magna</i> )	3616 - 6414 mg/l, 24 hours 2461 - 4395 mg/l, 48 hours > 100 mg/l, 96 hours
Fish	LC50	Bleak ( <i>Alburnus alburnus</i> )	> 28000 mg/l, 96 hours 28000 mg/l, 96 hours
		Bluegill ( <i>Lepomis macrochirus</i> )	17400 - 21000 mg/l, 24 hours 17300 - 21100 mg/l, 48 hours 15510 - 20240 mg/l, 72 hours 13500 - 17600 mg/l, 96 hours
		Carp ( <i>Leuciscus idus melanotus</i> )	> 10000 mg/l, 48 hours
		Fathead minnow ( <i>Pimephales promelas</i> )	29000 - 30500 mg/l, 24 hours 29000 - 30500 mg/l, 48 hours 28500 - 30400 mg/l, 96 hours 27600 - 29200 mg/l, 72 hours
		Medaka, high-eyes ( <i>Oryzias latipes</i> )	1400 mg/l, 48 hours
		Rainbow trout, donaldson trout ( <i>Oncorhynchus mykiss</i> )	19800 - 20700 mg/l, 24 hours 19500 - 20700 mg/l, 48 hours 19500 - 20700 mg/l, 96 hours
Other	LC50	Turbellarian, flatworm ( <i>Dugesia tigrina</i> )	> 100 mg/l, 96 hours
XYLENES (1330-20-7)			
<b>Aquatic</b>			
Crustacea	LC50	Calanoid copepod ( <i>Diaptomus forbesi</i> )	99.5 mg/l, 96 hours
		Daggerblade grass shrimp ( <i>Palaemonetes pugio</i> )	14 mg/l, 24 hours 8.5 mg/l, 48 hours 7.4 mg/l, 96 hours
		Rotifer ( <i>Brachionus calyciflorus</i> )	253 mg/l, 2 days 203.9 - 301.5 mg/l, 24 hours 156 - 348 mg/l, 24 hours
		Rotifer ( <i>Brachionus plicatilis</i> )	461.8 - 530.1 mg/l, 24 hours 387 - 605 mg/l, 24 hours
		Water flea ( <i>Daphnia magna</i> )	150 mg/l, 24 hours 100 - 1000 mg/l, 24 hours
Fish	LC50	Bluegill ( <i>Lepomis macrochirus</i> )	36 mg/l, 24 hours 30.5 mg/l, 1 hours 19.9 mg/l, 2 hours 19 mg/l, 48 hours 19 mg/l, 96 hours 15.9 mg/l, 4 hours 13.6 mg/l, 8 hours 13.1 - 16.5 mg/l, 96 hours 13 - 17.3 mg/l, 24 hours

Components	Species	Test results
		11 mg/l, 16 hours
		10.464 - 13.762 mg/l, 24 hours
		10.4 mg/l, 24 hours
		7.711 - 9.591 mg/l, 96 hours
	Carp ( <i>Cyprinus carpio</i> )	1080 mg/l, 24 hours
		950 mg/l, 48 hours
		780 mg/l, 96 hours
	Fathead minnow ( <i>Pimephales promelas</i> )	46 mg/l, 1 hours
		42 mg/l, 24 hours
		42 mg/l, 48 hours
		42 mg/l, 72 hours
		42 mg/l, 96 hours
		25.62 - 32.64 mg/l, 24 hours
		24.58 - 31.25 mg/l, 48 hours
		23.53 - 29.97 mg/l, 96 hours
		13.41 mg/l, 96 hours
	Goldfish ( <i>Carassius auratus</i> )	75 mg/l, 24 hours
		32.64 - 42.69 mg/l, 24 hours
		32.64 - 42.69 mg/l, 48 hours
		26.42 - 37.26 mg/l, 24 hours
		19.16 - 31.01 mg/l, 48 hours
		12.04 - 24.95 mg/l, 72 hours
		6.85 - 21.31 mg/l, 96 hours
	Guppy ( <i>Poecilia reticulata</i> )	30.26 - 40.75 mg/l, 24 hours
		30.26 - 40.75 mg/l, 48 hours
		30.26 - 40.75 mg/l, 96 hours
	Rainbow trout, donaldson trout ( <i>Oncorhynchus mykiss</i> )	11.9 - 25.1 mg/l, 24 hours
		11.9 - 25.1 mg/l, 96 hours
		9.54 - 19.2 mg/l, 24 hours
		9.54 - 19.2 mg/l, 96 hours
		6.702 - 10.032 mg/l, 96 hours
		6.673 - 10.323 mg/l, 24 hours
		2.661 - 4.093 mg/l, 24 hours
		2.661 - 4.093 mg/l, 96 hours
		2.661 - 4.093 mg/l, 96 hours
	Tigerfish, crescent perch ( <i>Therapon jarbua</i> )	102 mg/l, 24 hours
		95 mg/l, 48 hours
		92 mg/l, 72 hours
		89 mg/l, 96 hours
	Zebra danio ( <i>Danio rerio</i> )	20 mg/l, 48 hours

\* Estimates for product may be based on additional component data not shown.

**12.2. Persistence and degradability** None known.

**12.3. Bioaccumulative potential** Not available.

**Partition coefficient  
n-octanol/water (log Kow)**

METHYL ALCOHOL	-0.77
Chloroform	1.97
Iodine	2.49
XYLENES	3.12 - 3.2

**Bioconcentration factor (BCF)** Not available.

**12.4. Mobility in soil** Not available.

**12.5. Results of PBT  
and vPvB  
assessment** Not a PBT or vPvB substance or mixture.

**12.6. Other adverse effects** Not available.

**SECTION 13: Disposal considerations**

**13.1. Waste treatment methods**

**Residual waste** Dispose of in accordance with local regulations. Avoid discharge into water courses or onto the ground.

**Contaminated packaging** Empty containers should be taken to an approved waste handling site for recycling or disposal. Offer rinsed packaging material to local recycling facilities.

**EU waste code** Waste codes should be assigned by the user based on the application for which the product was used.

**Disposal  
methods/information** This material and its container must be disposed of as hazardous waste. Must be incinerated in a suitable incineration plant holding a permit delivered by the competent authorities. Do not discharge into drains, water courses or onto the ground. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose in accordance with all applicable regulations.

**SECTION 14: Transport information**

**ADR**

<b>14.1. UN number</b>	UN1993
<b>14.2. UN proper shipping name</b>	Flammable liquids, n.o.s. (METHYL ALCOHOL, XYLENES)
<b>14.3. Transport hazard class(es)</b>	3
<b>Subsidiary class(es)</b>	-
<b>14.4. Packing group</b>	II
<b>14.5. Environmental hazards</b>	No
<b>Tunnel restriction code</b>	Not available.
<b>Labels required</b>	3
<b>14.6. Special precautions for user</b>	Not available.

**RID**

<b>14.1. UN number</b>	UN1993
<b>14.2. UN proper shipping name</b>	Flammable liquids, n.o.s. (XYLENES, METHYL ALCOHOL)
<b>14.3. Transport hazard class(es)</b>	3
<b>Subsidiary class(es)</b>	-
<b>14.4. Packing group</b>	II
<b>14.5. Environmental hazards</b>	No
<b>Labels required</b>	3
<b>14.6. Special precautions for user</b>	Not available.

**ADN**

<b>14.1. UN number</b>	UN1993
<b>14.2. UN proper shipping name</b>	Flammable liquids, n.o.s. (METHYL ALCOHOL, XYLENES)
<b>14.3. Transport hazard class(es)</b>	3
<b>Subsidiary class(es)</b>	-
<b>14.4. Packing group</b>	II
<b>14.5. Environmental hazards</b>	No

**Labels required** 3  
**14.6. Special precautions for user** Not available.

#### IATA

**14.1. UN number** UN1993  
**14.2. UN proper shipping name** Flammable liquids, n.o.s. (METHYL ALCOHOL, XYLENES)  
**14.3. Transport hazard class(es)** 3  
**Subsidiary class(es)** -  
**14.4. Packing group** II  
**14.5. Environmental hazards** Not available.  
**Labels required** 3  
**ERG Code** Not available.  
**14.6. Special precautions for user** Not available.

#### IMDG

**14.1. UN number** UN1993  
**14.2. UN proper shipping name** Flammable liquids, n.o.s. (METHYL ALCOHOL, XYLENES)  
**14.3. Transport hazard class(es)** 3  
**Subsidiary class(es)** -  
**14.4. Packing group** II  
**14.5. Environmental hazards**  
**Marine pollutant** No  
**Labels required** 3  
**14.6. Special precautions for user** Not available.  
**14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** This substance/mixture is not intended to be transported in bulk.

ADN; ADR; IATA; IMDG; RID



## SECTION 15: Regulatory information

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

#### EU regulations

**Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I**

Not listed.

**Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex II**

Not listed.

**Regulation (EC) No. 850/2004 on persistent organic pollutants, Annex I as amended**

Not listed.

**Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 1 as amended**

Chloroform (CAS 67-66-3)

**Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 2 as amended**

Not listed.

**Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 3 as amended**

Not listed.

**Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex V as amended**

Not listed.

**Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry**

Chloroform (CAS 67-66-3)

**Regulation (EC) No. 1907/2006, REACH Article 59(1) Candidate List as currently published by ECHA**

Not listed.

**Authorisations**

**Regulation (EC) No. 143/2011 Annex XIV Substances Subject to Authorisation**

Not listed.

**Restrictions on use**

**Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended**

Chloroform (CAS 67-66-3)

**Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work**

Not regulated.

**Directive 92/85/EEC: on the safety and health of pregnant workers and workers who have recently given birth or are breastfeeding**

Chloroform (CAS 67-66-3)

**Other EU regulations**

**Directive 96/82/EC (Seveso II) on the control of major-accident hazards involving dangerous substances**

Not regulated.

**Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work**

Chloroform (CAS 67-66-3)

Iodine (CAS 7553-56-2)

METHYL ALCOHOL (CAS 67-56-1)

SULFUR DIOXIDE (CAS 7446-09-5)

XYLENES (CAS 1330-20-7)

**Directive 94/33/EC on the protection of young people at work**

Chloroform (CAS 67-66-3)

METHYL ALCOHOL (CAS 67-56-1)

SULFUR DIOXIDE (CAS 7446-09-5)

**Other regulations**

The product is classified and labelled in accordance with EC directives or respective national laws. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006. Pregnant women should not work with the product, if there is the least risk of exposure.

**National regulations**

Young people under 18 years old are not allow to work with this product according to the EU Directive 94/33/EC on the protection of young people at work.

**15.2. Chemical safety assessment**

No Chemical Safety Assessment has been carried out.

**SECTION 16: Other information**

**List of abbreviations**

Not available.

**References**

Not available.

**Information on evaluation method leading to the classification of mixture**

Not available.

**Wording of the R-phrases in sections 2 and 3**

R10 Flammable.  
R11 Highly flammable.  
R20/21 Harmful by inhalation and in contact with skin.  
R22 Harmful if swallowed.  
R23 Toxic by inhalation.  
R23/24/25 Toxic by inhalation, in contact with skin and if swallowed.  
R34 Causes burns.  
R36/37/38 Irritating to eyes, respiratory system and skin.  
R38 Irritating to skin.  
R39/23/24/25 Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.  
R40 Limited evidence of a carcinogenic effect.  
R48/20/22 Harmful: Danger of serious damage to health by prolonged exposure through inhalation and if swallowed.  
R50 Very toxic to aquatic organisms.  
R52 Harmful to aquatic organisms.

**Revision information**

IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING:  
Alternate Trade Names  
Composition/Information on Ingredients: Ingredients  
Fire Fighting Measures: Fire & Explosion Properties  
Physical & Chemical Properties: Physical & Chemical Properties  
ECOLOGICAL INFORMATION: Ecotoxicity  
TRANSPORT INFORMATION: Product Shipping Name/Packing Group

**Training information**

Not available.

**Disclaimer**

The information in the sheet was written based on the best knowledge and experience currently available. 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.