Bromocresol Green-Methyl Red, Alcoholic

Safety Data Sheet 75031

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

1.1. Product identifier

Product form : Mixture

Product name. : Bromocresol Green-Methyl Red, Alcoholic

Product code : LC11880

BIG no : 10113

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

Use of the substance/mixture : For laboratory and manufacturing use only.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Flam. Liq. 2	H225
Acute Tox. 4 (Oral)	H302
Skin Irrit. 2	H315
Eye Irrit. 2A	H319
STOT SE 3	H335
STOT SE 1	H370

2.2. Label elements

GHS-US labelling

Hazard pictograms (GHS-US) :



GHS02 GHS07 GHS08

Signal word (GHS-US) : Danger

Hazard statements (GHS-US) :
H225 - Highly flammable liquid and vapour
H302 - Harmful if swallowed
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H335 - May cause respiratory irritation
H370 - Causes damage to organs (central nervous system, optic nerve) (oral, Dermal)

Precautionary statements (GHS-US) :
P210 - Keep away from heat, hot surfaces, open flames, sparks. - No smoking
P233 - Keep container tightly closed
P240 - Ground/bond container and receiving equipment
P241 - Use explosion-proof electrical, lighting, ventilating equipment
P242 - Use only non-sparking tools
P243 - Take precautionary measures against static discharge
P260 - Do not breathe mist, spray, vapours
P264 - Wash exposed skin thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P271 - Use only outdoors or in a well-ventilated area
P280 - Wear eye protection, face protection, protective clothing, protective gloves
P303+P361+P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P312 - Call a POISON CENTER/doctor/…/if you feel unwell
P235 - Keep cool
P330 - If swallowed, rinse mouth
P332+P313 - If skin irritation occurs: Get medical advice/attention
P337+P313 - If eye irritation persists: Get medical advice/attention
P363 - Wash contaminated clothing before reuse

P370+P378 - In case of fire: Use carbon dioxide (CO2), powder, alcohol-resistant foam for extinction
P403+P233 - Store in a well-ventilated place. Keep container tightly closed
P405 - Store locked up
P501 - Dispose of contents/container to comply with local, state and federal regulations

2.3. Other hazards

Other hazards not contributing to the classification : None.

2.4. Unknown acute toxicity (GHS-US)

No data available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

Full text of H-phrases: see section 16

3.2. Mixture

Name	Product identifier	%	GHS-US classification
Ethanol	(CAS No) 64-17-5	90.36	Flam. Liq. 2, H225 Carc. 1A, H350 Repr. 2, H361
Isopropanol	(CAS No) 67-63-0	5	Flam. Liq. 2, H225 Eye Irrit. 2A, H319 STOT SE 3, H336
Methanol	(CAS No) 67-56-1	4.5	Flam. Liq. 2, H225 Acute Tox. 3 (Inhalation), H331 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Oral), H301 STOT SE 1, H370 STOT SE 1, H370 STOT SE 1, H370
Bromocresol Green, Sodium Salt	(CAS No) 62625-32-5	0.1	Not classified
Methyl Red, Sodium Salt	(CAS No) 845-10-3	0.04	Not classified

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Check the vital functions. Unconscious: maintain adequate airway and respiration. Respiratory arrest: artificial respiration or oxygen. Cardiac arrest: perform resuscitation. Victim conscious with laboured breathing: half-seated. Victim in shock: on his back with legs slightly raised. Vomiting: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up). Keep watching the victim. Give psychological aid. Keep the victim calm, avoid physical strain. Depending on the victim's condition: doctor/hospital. Never give alcohol to drink.

First-aid measures after inhalation : Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.

First-aid measures after skin contact : Rinse with water. Take victim to a doctor if irritation persists.

First-aid measures after eye contact : Rinse immediately with plenty of water. Do not apply neutralizing agents. Take victim to an ophthalmologist if irritation persists.

First-aid measures after ingestion : Rinse mouth with water. Do not induce vomiting. Call Poison Information Centre (www.big.be/antigif.htm). Consult a doctor/medical service if you feel unwell. Ingestion of large quantities: immediately to hospital.

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

Symptoms/injuries after inhalation : EXPOSURE TO HIGH CONCENTRATIONS: Dry/sore throat. Coughing. Irritation of the respiratory tract. Irritation of the nasal mucous membranes. Respiratory difficulties. Central nervous system depression. Symptoms similar to those listed under ingestion.

Symptoms/injuries after skin contact : Slight irritation.

Symptoms/injuries after eye contact : Redness of the eye tissue. Lacrimation. ON CONTINUOUS EXPOSURE/CONTACT: Irritation of the eye tissue.

Symptoms/injuries after ingestion : AFTER ABSORPTION OF HIGH QUANTITIES: Risk of aspiration pneumonia. Red skin. Body temperature rise. Damp/clammy skin. Excited/restless. Accelerated heart action. Central nervous system depression. Dizziness. Narcosis. Headache. Drunkenness. Nausea. Vomiting. Disturbed motor response. Coordination disorders. Visual disturbances. Impaired concentration. Delusions. Disturbed sensation of pain. Disturbances of heart rate. Disturbances of consciousness. Tremor. Cramps/uncontrolled muscular contractions. Dilated pupils.

Chronic symptoms : ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Dry skin. Gastrointestinal complaints. Enlargement/affection of the liver. Change in the haemogramme/blood composition. Cardiac and blood circulation effects. High arterial pressure. Impairment of the nervous system. Behavioural disturbances. Mental confusion. Disturbed tactile sensibility. Tremor. Affection of the bone marrow. Affection of the endocrine system. Weakening of the immune system.

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

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray. Alcohol-resistant foam. BC powder. Carbon dioxide.

Unsuitable extinguishing media : Solid water jet ineffective as extinguishing medium.

5.2. Special hazards arising from the substance or mixture

Fire hazard : DIRECT FIRE HAZARD. Highly flammable. Gas/vapour flammable with air within explosion limits. INDIRECT FIRE HAZARD. May be ignited by sparks. Gas/vapour spreads at floor level: ignition hazard. Reactions involving a fire hazard: see "Reactivity Hazard".

Explosion hazard : DIRECT EXPLOSION HAZARD. Gas/vapour explosive with air within explosion limits. INDIRECT EXPLOSION HAZARD. may be ignited by sparks. Reactions with explosion hazards: see "Reactivity Hazard".

Reactivity : Upon combustion: CO and CO2 are formed. Reacts violently with many compounds e.g.: with (strong) oxidizers: (increased) risk of fire/explosion. Violent to explosive reaction with (some) acids.

5.3. Advice for firefighters

Firefighting instructions : Cool tanks/drums with water spray/remove them into safety. Do not move the load if exposed to heat.

Protection during firefighting : Heat/fire exposure: compressed air/oxygen apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Remove ignition sources. Use special care to avoid static electric charges. No naked lights. No smoking.

6.1.1. For non-emergency personnel

Protective equipment : Gloves. Protective goggles. Protective clothing. Large spills/in enclosed spaces: compressed air apparatus.

Emergency procedures : Keep upwind. Mark the danger area. Consider evacuation. Seal off low-lying areas. Close doors and windows of adjacent premises. Stop engines and no smoking. No naked flames or sparks. Spark- and explosionproof appliances and lighting equipment. Keep containers closed. Wash contaminated clothes.

6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection. Avoid breathing dust/fume/gas/mist/vapours/spray.

Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent spreading in sewers.

6.3. Methods and material for containment and cleaning up

For containment : Contain released substance, pump into suitable containers. Consult "Material-handling" to select material of containers. Plug the leak, cut off the supply. Dam up the liquid spill. Try to reduce evaporation. Measure the concentration of the explosive gas-air mixture. Dilute/disperse combustible gas/vapour with water curtain. Provide equipment/receptacles with earthing. Do not use compressed air for pumping over spills.

Methods for cleaning up : Take up liquid spill into a non combustible material e.g.: sand, earth, vermiculite or kieselguhr, powdered limestone. Scoop absorbed substance into closing containers. See "Material-handling" for suitable container materials. Carefully collect the spill/leftovers. Damaged/cooled tanks must be emptied. Do not use compressed air for pumping over spills. Clean contaminated surfaces with an excess of water. Take collected spill to manufacturer/competent authority. Wash clothing and equipment after handling.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Handle uncleaned empty containers as full ones. Thoroughly clean/dry the installation before use. Do not discharge the waste into the drain. Do not use compressed air for pumping over. Use spark-/explosionproof appliances and lighting system. Take precautions against electrostatic charges. Keep away from naked flames/heat. Keep away from ignition sources/sparks. Observe normal hygiene standards. Keep container tightly closed. Measure the concentration in the air regularly. Work under local exhaust/ventilation.

Hygiene measures : Wash ... thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures	:	Proper grounding procedures to avoid static electricity should be followed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/… equipment.
Storage conditions	:	Keep container tightly closed. Keep only in the original container in a cool, well ventilated place away from : Keep in fireproof place.
Incompatible products	:	Strong bases. Strong acids.
Incompatible materials	:	Sources of ignition. Direct sunlight. Heat sources.
Heat and ignition sources	:	KEEP SUBSTANCE AWAY FROM: heat sources. ignition sources.
Prohibitions on mixed storage	:	KEEP SUBSTANCE AWAY FROM: oxidizing agents. (strong) acids. water/moisture.
Storage area	:	Keep out of direct sunlight. Store in a dry area. Ventilation at floor level. Fireproof storeroom. Provide for an automatic sprinkler system. Provide for a tub to collect spills. Provide the tank with earthing. Meet the legal requirements.
Special rules on packaging	:	SPECIAL REQUIREMENTS: closing. dry. clean. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.
Packaging materials	:	SUITABLE MATERIAL: stainless steel. aluminium. iron. copper. nickel. synthetic material. glass.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Bromocresol Green-Methyl Red, Alcoholic		
USA ACGIH	ACGIH STEL (ppm)	1000 ppm
USA OSHA	OSHA PEL (TWA) (mg/m³)	1900 mg/m³
USA OSHA	OSHA PEL (TWA) (ppm)	1000 ppm

Ethanol (64-17-5)		
USA ACGIH	ACGIH STEL (ppm)	1000 ppm
USA OSHA	OSHA PEL (TWA) (mg/m³)	1900 mg/m³
USA OSHA	OSHA PEL (TWA) (ppm)	1000 ppm

Isopropanol (67-63-0)		
USA ACGIH	ACGIH TWA (ppm)	200 ppm
USA ACGIH	ACGIH STEL (ppm)	400 ppm
USA OSHA	OSHA PEL (TWA) (mg/m³)	980 mg/m³
USA OSHA	OSHA PEL (TWA) (ppm)	400 ppm

Methanol (67-56-1)		
USA ACGIH	ACGIH TWA (ppm)	200 ppm
USA ACGIH	ACGIH STEL (ppm)	250 ppm
USA OSHA	OSHA PEL (TWA) (mg/m³)	260 mg/m³
USA OSHA	OSHA PEL (TWA) (ppm)	200 ppm

8.2. Exposure controls

Personal protective equipment	:	Avoid all unnecessary exposure.
Materials for protective clothing	:	GIVE EXCELLENT RESISTANCE: butyl rubber. viton. GIVE GOOD RESISTANCE: neoprene. tetrafluoroethylene. GIVE LESS RESISTANCE: nitrile rubber. polyethylene. GIVE POOR RESISTANCE: natural rubber. PVA. PVC.
Hand protection	:	Gloves.
Eye protection	:	Protective goggles.
Skin and body protection	:	Protective clothing.
Respiratory protection	:	Wear gas mask with filter type A if conc. in air > exposure limit.
Other information	:	Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Appearance	:	Liquid.
Molecular mass	:	46.07 g/mol

Colour	:	Green.
Odour	:	Alcohol odour. Pleasant odour.
Odour threshold	:	100 ppm 188 mg/m³
pH	:	No data available
Relative evaporation rate (butylacetate=1)	:	2.4
Relative evaporation rate (ether=1)	:	8.3
Melting point	:	-115 °C
Freezing point	:	No data available
Boiling point	:	78 °C
Flash point	:	13 °C
Critical temperature	:	243 °C
Self ignition temperature	:	363 °C
Decomposition temperature	:	No data available
Flammability (solid, gas)	:	No data available
Vapour pressure	:	59 hPa
Vapour pressure at 50 °C	:	300 hPa
Critical pressure	:	63840 hPa
Relative vapour density at 20 °C	:	1.6
Relative density	:	0.79
Relative density of saturated gas/air mixture	:	1.04
Density	:	790 kg/m³
Solubility	:	Soluble in water. Soluble in ether. Soluble in acetone. Soluble in chloroform. Soluble in oils/fats. Soluble in methanol. Soluble in acids. Water: Complete Ethanol: Not applicable Ether: Complete Acetone: Complete
Log Pow	:	-0.31 (Experimental value)
Log Kow	:	No data available
Viscosity, kinematic	:	No data available
Viscosity, dynamic	:	0.0012 Pa.s (20 °C)
Explosive properties	:	No data available
Oxidising properties	:	No data available
Explosive limits	:	3.3 - 19.0 vol % 67 - 290 g/m³

9.2. Other information

Specific conductivity	:	130000 pS/m
Saturation concentration	:	112 g/m³
VOC content	:	100 %
Other properties	:	Gas/vapour heavier than air at 20°C. Clear. Hygroscopic. Volatile. Substance has neutral reaction.

SECTION 10: Stability and reactivity

10.1. Reactivity

Upon combustion: CO and CO2 are formed. Reacts violently with many compounds e.g.: with (strong) oxidizers: (increased) risk of fire/explosion. Violent to explosive reaction with (some) acids.

10.2. Chemical stability

Hygroscopic.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures. Open flame.

10.5. Incompatible materials

Strong acids. Strong bases.

10.6. Hazardous decomposition products

fume. Carbon monoxide. Carbon dioxide. May release flammable gases.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Harmful if swallowed.

Bromocresol Green-Methyl Red, Alcoholic	
LD50 oral rat	10740 mg/kg bodyweight (Rat; Experimental value,Rat; Experimental value)
LD50 dermal rabbit	> 16000 mg/kg (Rabbit)

Ethanol (64-17-5)	
LD50 oral rat	10740 mg/kg bodyweight (Rat; Experimental value,Rat; Experimental value)
LD50 dermal rabbit	> 16000 mg/kg (Rabbit)

Isopropanol (67-63-0)	
LD50 oral rat	5045 mg/kg (5840 mg/kg bodyweight; Rat; Rat; Experimental value,5840 mg/kg bodyweight; Rat; Rat; Experimental value)
LD50 dermal rabbit	12870 mg/kg (16.4; Rabbit; Rabbit; Experimental value,16.4; Rabbit; Rabbit; Experimental value)
LC50 inhalation rat (mg/l)	73 mg/l/4h (Rat)

Methanol (67-56-1)	
LD50 oral rat	> 5000 mg/kg (1187-2769 mg/kg bodyweight; Rat; Rat)
LD50 dermal rabbit	15800 mg/kg (Rabbit)
LC50 inhalation rat (mg/l)	85 mg/l/4h (Rat)
LC50 inhalation rat (ppm)	64000 ppm/4h (Rat)

Skin corrosion/irritation : Causes skin irritation.

Serious eye damage/irritation : Causes serious eye irritation.

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Based on available data, the classification criteria are not met

Carcinogenicity : Not classified

Bromocresol Green-Methyl Red, Alcoholic	
IARC group	1

Ethanol (64-17-5)	
IARC group	1

Isopropanol (67-63-0)	
IARC group	3

Reproductive toxicity : Not classified

Based on available data, the classification criteria are not met

Specific target organ toxicity (single exposure) : May cause respiratory irritation. Causes damage to organs (central nervous system, optic nerve) (oral, Dermal).

Specific target organ toxicity (repeated exposure) : Not classified

Based on available data, the classification criteria are not met

Aspiration hazard : Not classified

Based on available data, the classification criteria are not met

Potential Adverse human health effects and symptoms : Harmful if swallowed. Based on available data, the classification criteria are not met.

Symptoms/injuries after inhalation : EXPOSURE TO HIGH CONCENTRATIONS: Dry/sore throat. Coughing. Irritation of the respiratory tract. Irritation of the nasal mucous membranes. Respiratory difficulties. Central nervous system depression. Symptoms similar to those listed under ingestion.

Symptoms/injuries after skin contact : Slight irritation.

Symptoms/injuries after eye contact : Redness of the eye tissue. Lacrimation. ON CONTINUOUS EXPOSURE/CONTACT: Irritation of the eye tissue.

Symptoms/injuries after ingestion : AFTER ABSORPTION OF HIGH QUANTITIES: Risk of aspiration pneumonia. Red skin. Body temperature rise. Damp/clammy skin. Excited/restless. Accelerated heart action. Central nervous system depression. Dizziness. Narcosis. Headache. Drunkenness. Nausea. Vomiting. Disturbed motor response. Coordination disorders. Visual disturbances. Impaired concentration. Delusions. Disturbed sensation of pain. Disturbances of heart rate. Disturbances of consciousness. Tremor. Cramps/uncontrolled muscular contractions. Dilated pupils.

Chronic symptoms : ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Dry skin. Gastrointestinal complaints. Enlargement/affection of the liver. Change in the haemogramme/blood composition. Cardiac and blood circulation effects. High arterial pressure. Impairment of the nervous system. Behavioural disturbances. Mental confusion. Disturbed tactile sensibility. Tremor. Affection of the bone marrow. Affection of the endocrine system. Weakening of the immune system.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Classification concerning the environment: not applicable.

Ecology - air : TA-Luft Klasse 5.2.5.

Ecology - water : Not harmful to fishes (LC50(96h) >1000 mg/l). Not harmful to invertebrates (Daphnia). Slightly harmful to algae (EC50 (72h): 100 - 1000 mg/l). Not harmful to bacteria (EC50 >1000 mg/l). Inhibition of activated sludge.

Bromocresol Green-Methyl Red, Alcoholic	
LC50 fishes 1	14200 mg/l (96 h; Pimephales promelas; NOMINAL CONCENTRATION)
EC50 Daphnia 1	9300 mg/l (48 h; Daphnia magna)
LC50 fish 2	13000 mg/l 96 h; Salmo gairdneri (Oncorhynchus mykiss)
EC50 Daphnia 2	10800 mg/l (24 h; Daphnia magna)
Threshold limit other aquatic organisms 1	65 mg/l (72 h; Protozoa)
Threshold limit algae 1	1450 mg/l (192 h; Microcystis aeruginosa; GROWTH RATE)
Threshold limit algae 2	5000 mg/l (168 h; Scenedesmus quadricauda; GROWTH RATE)

Ethanol (64-17-5)	
LC50 fishes 1	14200 mg/l (96 h; Pimephales promelas; NOMINAL CONCENTRATION)
EC50 Daphnia 1	9300 mg/l (48 h; Daphnia magna)
LC50 fish 2	13000 mg/l 96 h; Salmo gairdneri (Oncorhynchus mykiss)
EC50 Daphnia 2	10800 mg/l (24 h; Daphnia magna)
Threshold limit other aquatic organisms 1	65 mg/l (72 h; Protozoa)
Threshold limit algae 1	1450 mg/l (192 h; Microcystis aeruginosa; GROWTH RATE)
Threshold limit algae 2	5000 mg/l (168 h; Scenedesmus quadricauda; GROWTH RATE)

Isopropanol (67-63-0)	
LC50 fishes 1	4200 mg/l (96 h; Rasbora heteromorpha; Flow-through system)
EC50 Daphnia 1	> 10000 mg/l (48 h; Daphnia magna)
LC50 fish 2	9640 mg/l (96 h; Pimephales promelas; LETHAL)
EC50 Daphnia 2	13299 mg/l (48 h; Daphnia magna)
Threshold limit algae 1	> 1000 mg/l (72 h; Scenedesmus subspicatus; GROWTH RATE)
Threshold limit algae 2	1800 mg/l (72 h; Algae; CELL NUMBERS)

Methanol (67-56-1)	
LC50 fishes 1	15400 mg/l (96 h; Lepomis macrochirus; LETHAL)
EC50 Daphnia 1	> 10000 mg/l (48 h; Daphnia magna; LETHAL)
LC50 fish 2	10800 mg/l 96 h; Salmo gairdneri (Oncorhynchus mykiss)
EC50 Daphnia 2	24500 mg/l (48 h; Daphnia magna)
Threshold limit other aquatic organisms 1	6600 mg/l (16 h; Pseudomonas putida)
Threshold limit algae 1	530 mg/l (192 h; Microcystis aeruginosa)
Threshold limit algae 2	8000 mg/l (168 h; Scenedesmus quadricauda)

12.2. Persistence and degradability

Bromocresol Green-Methyl Red, Alcoholic	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. No (test)data on mobility of the substance available.
Biochemical oxygen demand (BOD)	0.8 - 0.967 g O^2/g substance
Chemical oxygen demand (COD)	1.70 g O^2/g substance
ThOD	2.10 g O^2/g substance
BOD (% of ThOD)	0.43 % ThOD

Ethanol (64-17-5)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. No (test)data on mobility of the substance available.
Biochemical oxygen demand (BOD)	0.8 - 0.967 g O^2/g substance
Chemical oxygen demand (COD)	1.70 g O^2/g substance
ThOD	2.10 g O^2/g substance
BOD (% of ThOD)	0.43 % ThOD

Isopropanol (67-63-0)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. Biodegradable in the soil under anaerobic conditions. No (test)data on mobility of the substance available.
Biochemical oxygen demand (BOD)	1.19 g O^2/g substance
Chemical oxygen demand (COD)	2.23 g O^2/g substance
ThOD	2.40 g O^2/g substance
BOD (% of ThOD)	0.49 % ThOD

Methanol (67-56-1)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil.
Biochemical oxygen demand (BOD)	0.6 - 1.12 g O^2/g substance
Chemical oxygen demand (COD)	1.42 g O^2/g substance
ThOD	1.5 g O^2/g substance
BOD (% of ThOD)	0.40 - 0.73 % ThOD

Bromocresol Green, Sodium Salt (62625-32-5)	
Persistence and degradability	Not established.

12.3. Bioaccumulative potential

Bromocresol Green-Methyl Red, Alcoholic	
Log Pow	-0.31 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

Ethanol (64-17-5)	
Log Pow	-0.31 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

Isopropanol (67-63-0)	
Log Pow	0.05 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

Methanol (67-56-1)	
BCF fish 1	< 10 (Leuciscus idus)
Log Pow	-0.77 (Experimental value; Other,Experimental value; Other)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

Bromocresol Green, Sodium Salt (62625-32-5)	
Bioaccumulative potential	Not established.

12.4. Mobility in soil

Bromocresol Green-Methyl Red, Alcoholic	
Surface tension	0.022 N/m (20 °C)

Ethanol (64-17-5)	
Surface tension	0.022 N/m (20 °C)

Isopropanol (67-63-0)	
Surface tension	0.021 N/m (25 °C)

Methanol (67-56-1)	
Surface tension	0.023 N/m (20 °C)

12.5. Other adverse effects

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Recycle by distillation. Remove to an authorized waste incinerator for solvents with energy recovery. Do not discharge into surface water. May be discharged to wastewater treatment installation.

Additional information : LWCA (the Netherlands): KGA category 03. Hazardous waste according to Directive 2008/98/EC.

Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

In accordance with DOT

14.1. UN number

UN-No.(DOT)	:	1170
DOT NA no.		UN1170

14.2. UN proper shipping name

DOT Proper Shipping Name	:	Ethanol solutions
Department of Transportation (DOT) Hazard Classes	:	3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120
Hazard labels (DOT)	:	3 - Flammable liquids



Packing group (DOT)	:	II - Medium Danger
DOT Special Provisions (49 CFR 172.102)	:	24 - Alcoholic beverages containing more than 70 percent alcohol by volume must be transported as materials in Packing Group II. Alcoholic beverages containing more than 24 percent but not more than 70 percent alcohol by volume must be transported as materials in Packing Group III. IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized. T4 - 2.65 178.274(d)(2) Normal..... 178.275(d)(3) TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = 97 / (1 + a (tr - tf)) Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.
DOT Packaging Exceptions (49 CFR 173.xxx)	:	4b;150
DOT Packaging Non Bulk (49 CFR 173.xxx)	:	202
DOT Packaging Bulk (49 CFR 173.xxx)	:	242

14.3. Additional information

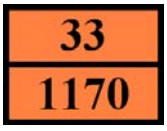
Other information	:	No supplementary information available.
State during transport (ADR-RID)	:	as liquid.

Overland transport

Packing group (ADR)	:	II
Class (ADR)	:	3 - Flammable liquids
Hazard identification number (Kemler No.)	:	33
Classification code (ADR)	:	F1
Danger labels (ADR)	:	3 - Flammable liquids



Orange plates :



Tunnel restriction code : D/E

Transport by sea

DOT Vessel Stowage Location	:	A - The material may be stowed ‘‘on deck’’ or ‘‘under deck’’ on a cargo vessel and on a passenger vessel.
EmS-No. (1)	:	F-E
EmS-No. (2)	:	S-D

Air transport

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	:	5 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	:	60 L

SECTION 15: Regulatory information

15.1. US Federal regulations

Isopropanol (67-63-0)
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on SARA Section 313 (Specific toxic chemical listings)

Methanol (67-56-1)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on SARA Section 313 (Specific toxic chemical listings)	
RQ (Reportable quantity, section 304 of EPA's List of Lists) :	5000 lb
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Fire hazard

Bromocresol Green, Sodium Salt (62625-32-5)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

Methyl Red, Sodium Salt (845-10-3)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA

Bromocresol Green-Methyl Red, Alcoholic	
WHMIS Classification	Class B Division 2 - Flammable Liquid Class D Division 1 Subdivision B - Toxic material causing immediate and serious toxic effects Class D Division 2 Subdivision A - Very toxic material causing other toxic effects Class D Division 2 Subdivision B - Toxic material causing other toxic effects

Isopropanol (67-63-0)	
Listed on the Canadian DSL (Domestic Sustances List) inventory.	
WHMIS Classification	Class B Division 2 - Flammable Liquid Class D Division 2 Subdivision B - Toxic material causing other toxic effects

Methanol (67-56-1)	
Listed on the Canadian DSL (Domestic Sustances List) inventory.	
WHMIS Classification	Class B Division 2 - Flammable Liquid Class D Division 2 Subdivision A - Very toxic material causing other toxic effects Class D Division 2 Subdivision B - Toxic material causing other toxic effects

Bromocresol Green, Sodium Salt (62625-32-5)	
WHMIS Classification	Uncontrolled product according to WHMIS classification criteria

Methyl Red, Sodium Salt (845-10-3)	
Listed on the Canadian DSL (Domestic Sustances List) inventory.	
WHMIS Classification	Uncontrolled product according to WHMIS classification criteria

EU-Regulations

No additional information available

Classification according to Regulation (EC) No. 1272/2008 [CLP]

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

F; R11

Full text of R-phrases: see section 16

15.2.2. National regulations

Isopropanol (67-63-0)
Listed on the Canadian Ingredient Disclosure List

Methanol (67-56-1)
Listed on the Canadian Ingredient Disclosure List

Bromocresol Green, Sodium Salt (62625-32-5)
Not listed on the Canadian Ingredient Disclosure List

Methyl Red, Sodium Salt (845-10-3)
Not listed on the Canadian Ingredient Disclosure List

15.3. US State regulations

Bromocresol Green-Methyl Red, Alcoholic()	
U.S. - California - Proposition 65 - Developmental Toxicity	Yes

Ethanol (64-17-5)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significance risk level (NSRL)
	Yes			

Methanol (67-56-1)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significance risk level (NSRL)
	Yes			

Isopropanol (67-63-0)

Methanol (67-56-1)

SECTION 16: Other information

Indication of changes : Revision - See : *.

Other information : None.

Full text of H-phrases: see section 16:

Acute Tox. 3 (Dermal)	Acute toxicity (dermal), Category 3
Acute Tox. 3 (Inhalation)	Acute toxicity (inhal.), Category 3
Acute Tox. 3 (Oral)	Acute toxicity (oral), Category 3
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Carc. 1A	Carcinogenicity, Category 1A
Eye Irrit. 2A	Serious eye damage/eye irritation, Category 2A
Flam. Liq. 2	Flammable liquids, Category 2
Repr. 2	Reproductive toxicity, Category 2
Skin Irrit. 2	Skin corrosion/irritation, Category 2
STOT SE 1	Specific target organ toxicity — single exposure, Category 1
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Narcosis
H225	Highly flammable liquid and vapour
H301	Toxic if swallowed
H302	Harmful if swallowed
H311	Toxic in contact with skin
H315	Causes skin irritation
H319	Causes serious eye irritation
H331	Toxic if inhaled
H335	May cause respiratory irritation
H336	May cause drowsiness or dizziness
H350	May cause cancer
H361	Suspected of damaging fertility or the unborn child
H370	Causes damage to organs

NFPA health hazard : 2 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention is given.



NFPA fire hazard	:	3 - Liquids and solids that can be ignited under almost all ambient conditions.
NFPA reactivity	:	0 - Normally stable, even under fire exposure conditions, and are not reactive with water.

HMIS III Rating

Health	:	2 Moderate Hazard - Temporary or minor injury may occur
Flammability	:	3 Serious Hazard
Physical	:	0 Minimal Hazard
Personal Protection	:	B

SDS US (GHS HazCom 2012)