

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations Date of issue: 04/25/2014 Version: 1.0

SECTION 1: Identification of the substance/mixture and of the company/undertaking **Product identifier** 1.1. Product form : Mixture Product name : Universal Indicator, Bogens in Alcohol Product code : LC26500 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. Details of the supplier of the safety data sheet 1.3. LabChem Inc Jackson's Pointe Commerce Park Building 1000, 1010 Jackson's Pointe Court Zelienople, PA 16063 - USA T 412-826-5230 - F 724-473-0647 info@labchem.com - www.labchem.com

#### 1.4. Emergency telephone number

Emergency number

: CHEMTREC: 1-800-424-9300 or 011-703-527-3887

#### **SECTION 2: Hazards identification**

2.1. Classification of the substance or mixture

#### **GHS-US classification**

Flam. Liq. 2 H225 Eye Irrit. 2A H319 STOT SE 3 H336

#### 2.2. Label elements

#### **GHS-US** labelling

Hazard pictograms (GHS-US)

	GHS02 GHS07
Signal word (GHS-US)	: Danger
Hazard statements (GHS-US)	: H225 - Highly flammable liquid and vapour H319 - Causes serious eye irritation H336 - May cause drowsiness or dizziness
Precautionary statements (GHS-US)	<ul> <li>P210 - Keep away from heat, hot surfaces, open flames, sparks No smoking</li> <li>P233 - Keep container tightly closed</li> <li>P240 - Ground/bond container and receiving equipment</li> <li>P241 - Use explosion-proof electrical, lighting, ventilating equipment</li> <li>P242 - Use only non-sparking tools</li> <li>P243 - Take precautionary measures against static discharge</li> <li>P264 - Avoid breathing mist, spray, vapours</li> <li>P264 - Wash exposed skin thoroughly after handling</li> <li>P271 - Use only outdoors or in a well-ventilated area</li> <li>P280 - Wear eye protection, face protection, protective clothing, protective gloves</li> <li>P303+P361+P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower</li> <li>P304+P340 - IF INHALED: remove victim to fresh air and keep at rest in a position comfortable for breathing</li> <li>P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing</li> <li>P312 - Call a POISON CENTER/doctor/physician if you feel unwell</li> <li>P337+P378 - In case of fire: Use dry chemical powder, alcohol-resistant foam, carbon dioxide (CO2) for extinction</li> <li>P403+P233 - Store in a well-ventilated place. Keep container tightly closed</li> <li>P235 - Keep cool</li> <li>P405 - Store locked up</li> </ul>
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P501 - Dispose of contents/container to comply with local, state and federal regulations

2.3. Other hazards		
Other bazards not contributing to the	: None	
Other hazards not contributing to the	: None.	

Other hazards not contributing to the	
classification	

2.4. Unknown acute toxicity (GHS-US)

No data available

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

#### 3.1. Substance

#### Not applicable

Full text of H-phrases: see section 16

#### 3.2. Mixture

Name	Product identifier	%	GHS-US classification
Isopropyl Alcohol (2-Propanol)	(CAS No) 67-63-0	70	Flam. Liq. 2, H225 Eye Irrit. 2A, H319 STOT SE 3, H336
Water	(CAS No) 7732-18-5	29.74	Not classified
Bromothymol Blue, Free Acid	(CAS No) 76-59-5	0.08	Not classified
Thymol Blue, Free Acid	(CAS No) 76-16-9	0.07	Not classified
Methyl Orange, Sodium Salt	(CAS No) 547-58-0	0.05	Acute Tox. 3 (Oral), H301
Methyl Red, Free Acid	(CAS No) 493-52-7	0.04	Muta. 2, H341
Phenolphthalein	(CAS No) 77-09-8	0.02	Carc. 2, H351

### 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. Soap may be used. Do not apply (chemical) neutralizing agents. 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. Immediately after ingestion: give lots of water to drink. Do not induce vomiting. Give activated charcoal. 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. Doctor: gastric lavage.
4.2. Most important symptoms and effects,	both acute and delayed
Symptoms/injuries after inhalation :	EXPOSURE TO HIGH CONCENTRATIONS: Coughing. Dry/sore throat. Central nervous system depression. Dizziness. Headache. Narcosis.
Symptoms/injuries after skin contact :	Dry skin.
Symptoms/injuries after eye contact :	Irritation of the eye tissue.
Symptoms/injuries after ingestion :	AFTER ABSORPTION OF HIGH QUANTITIES: Central nervous system depression. Headache. Dilation of the blood vessels. Low arterial pressure. Nausea. Vomiting. Abdominal pain. Disturbed motor response. Disturbances of consciousness. FOLLOWING SYMPTOMS MAY APPEAR LATER: Body temperature fall. Slowing respiration.
Chronic symptoms :	ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Red skin. Dry skin. Itching. Cracking of the skin. Skin rash/inflammation. Impaired memory.
4.3. Indication of any immediate medical at	tention and special treatment needed
No additional information available	

SECTION 5: Firefighting measures	
5.1. Extinguishing media	
Suitable extinguishing media	: Water spray. Polyvalent foam. Alcohol-resistant foam. BC powder. Carbon dioxide.
Unsuitable extinguishing media	: Solid water jet ineffective as extinguishing medium.

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Fire hazard       : DIFECT FIRE HAZARD, Highly fammable, Gasivapour fammable, Gasivapour spreads at floor level, lightlon hazard.         Explosion hazard       : DIFECT FIRE HAZARD, May be ignited by sparks. Gasivapour spreads at floor level, lightlon hazard.         Explosion hazard       : DIFECT EXPLOSION HAZARD. Gasivapour explosive with air within explosion limits. INDIFECT EXPLOSION HAZARD. Casivapour explosive exciton with explosion hazard see "Reactivity Hazard".         Reactivity       : Upon combustion. CO and CO2 are formed. Violent to explosive reaction with (strong) oxidize Prolonged storage/in large quantities: may form peroxides.         5.3.       Advice for firefighters       : Cool tanksidrums with water spray/remove them into safety. Do not move the load if exposed to had.         Firefighting instructions       : Cool tanksidrums with water spray/remove them into safety. Do not move the load if exposed to had.         SECTION 6: Accidental release measures       Section of the danger area. Consider evacuation. Seal of low-lying areas. Close do arporatus.         SEL1.       For one-mergency personnel       : Gloves. Protective goggles. Protective dothing. Large spills/in endosed spaces: compressed a paperatus.         Section version procedures       : Stop leak if safe to do so. Ventilate area.         Freedering in severs.       : Gloves. Protective explorations. Seal of low-lying areas. Close do arporatus.         Freedering in severs.       : Stop leak if safe to do so. Ventilate area.         Sin det dore saminated dothes.       : Stop leak if safe t		, March 20, 2012 / Rules and Regulations
Limits. INDIRECT FIRE HAZARD. Gas/vapour spreads at floor level:         Explosion hazard       : DIRECT EXPLOSION HAZARD. Gas/vapour explosive with air within explosion hazard see "Reactivity Hazard".         Reactivity       : UDRECT EXPLOSION HAZARD. Cas/vapour explosive with air within explosion hazard see "Reactivity Hazard".         Reactivity       :: Upon combusion. C O and CO2 are formed. Violent to explosive reaction with (strong) oxidizer Prolonged storage/in large quantilies: may form peroxides.         5.3.       Advice for firelighters         Friefighting instructions       :: Cool tarks/drums with water spray/remove them into safety. Do not move the load if exposed to heat.         Protection during firefighting       :: Heat/fire exposure: compressed alr/roxygen apparatus.         SECTION 6: Accidental release measures       Section Max the danger area. Consider evacuation. Seal off low-lying areas. Close doe and windows of adjacent premises. Stop engines and no smoking. No naked flames or sparks. Spark- and explosion proof appliances and lighting equipment. Keep containers closed. Wash containinest clothes.         6.1.1.       For emergency responders       :: Equip cleanup cree with proper protection.         Freegrency procedures       :: Stop leak if safe to do so. Ventilate area.         6.2.2.       Environmental precautions         Protective equipment       :: Contain released substance, purp into suitable containers. Consult "Material-handling" to educe material of containers. Pure yound and material for ountaineres consult water reaction of the exploxy. Bayer materia	5.2. Special hazards arising from the su	bstance or mixture
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6.2. Environmental precautions         Prevent spreading in sewers.         6.3. Methods and material for containment and cleaning up         For containment <ul> <li>Contain released substance, pump into suitable containers. Consult "Material-handling" to sele 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/apour with water curtain. Provide equipment/receptacles with earthing. Do no use compressed air for pumping over spills.         Methods for cleaning up          <ul> <li>Take up liquid spill into absorbent material, e.g.: dry sand/earth/vermiculite or powdered limestone. Scoop absorbed substance into closing containers. See "Material-handling" for suitable container materials. Damaged/cooled tanks must be emptied. Do not use compressed air for pumping over spills. Carefully collect the spill/effovers. Clean contaminated surfaces with an excess of water. Take collected spill to manufacturer/competent authority. Wash clothing are equipment after handling.         6.4. Reference to other sections           No additional information available           SECTION 7: Handling and storage           7.1. Precautions for safe handling           Precautions for safe handling           Precautions for safe handling           Precautions for safe handling           <t< td=""><td>Protective equipment</td><td>: Equip cleanup crew with proper protection.</td></t<></li></ul></li></ul>	Protective equipment	: Equip cleanup crew with proper protection.
Prevent spreading in sewers.         6.3.       Methods and material for containment and cleaning up         For containment <ul> <li>Contain released substance, pump into suitable containers. Consult "Material-handling" to sele 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 no use compressed air for pumping over spills.         Methods for cleaning up              <ul></ul></li></ul>	Emergency procedures	: Stop leak if safe to do so. Ventilate area.
6.3. Methods and material for containment and cleaning up         For containment <ul> <li>Contain released substance, pump into suitable containers. Consult "Material-handling" to sele 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 no use compressed air for pumping over spills.         Methods for cleaning up              <ul> <li>Take up liquid spill into absorbed substance into closing containers. See "Material-handling" for suitable container materials. Damaged/cooled tanks must be emptied. Do not use compressed air for pumping over spills.</li> <li>Take up liquid spill over spills. Clearfully collect the spill/leftovers. Clean contaminated surfaces will an excess of water. Take collected spill to manufacturer/competent authority. Wash clothing are equipment after handling.</li> </ul>          6.4. Reference to other sections         No additional information available         SECTION 7: Handling and storage         7.1. Precautions for safe handling         Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Handle uncleaned empty containers as full ones. Thoroughly cleandry the installation before use. Do not discharge the waste into the drain. Do not use compressed for pumping o</li></ul>	6.2. Environmental precautions	
For containment       : Contain released substance, pump into suitable containers. Consult "Material-handling" to selematerial 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 no use compressed air for pumping over spills.         Methods for cleaning up       : Take up liquid spill into absorbent material, e.g.: dry sand/earth/vermiculite or powdered limestone. Scoop absorbed substance into closing containers. See "Material-handling" for suitable container materials. Damaged/cooled tanks must be emptied. Do not use compressed air for pumping over spills. Carefully collect the spill/leftovers. Clean contaminated surfaces wit an excess of water. Take collected spill to manufacturer/competent authority. Wash clothing are equipment after handling.         6.4.       Reference to other sections         No additional information available       : 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 of ro pumping over. Use spark-/explosionproof appliances and lighting system. Take precautions against electrostatic charges. 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       : Do not eat, drink or smoke when using this product. Wash contaminated clothing before reuse. Wash hands and other exposed areas with mild soap and water before eating, drin	Prevent spreading in sewers.	
Methods for cleaning up       : Take up liquid spill into absorbent material, e.g.: dry sand/earth/vermiculite or powdered limestone. Scoop absorbed substance into closing containers. See "Material-handling" for suitable gas/vapour with water curtain. Provide equipment/receptacles with earthing. Do nu use compressed air for pumping over spills.         Methods for cleaning up       : Take up liquid spill into absorbent material, e.g.: dry sand/earth/vermiculite or powdered limestone. Scoop absorbed substance into closing containers. See "Material-handling" for suitable container materials. Damaged/cooled tanks must be emptied. Do not use compressed air for pumping over spills. Carefully collect the spill/leftovers. Clean contaminated surfaces wit an excess of water. Take collected spill to manufacturer/competent authority. Wash clothing ar equipment after handling.         6.4.       Reference to other sections         No additional information available       : 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 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       : Do not eat, drink or smoke when using this product. Wash contaminated clothing before reuse. Wash hands and other exposed areas with mild soap and water before eating, drinking or	6.3. Methods and material for containme	ent and cleaning up
limestone. Scoop absorbed substance into closing containers. See "Material-handling" for suitable container materials. Damaged/cooled tanks must be emptied. Do not use compressed air for pumping over spills. Carefully collect the spill/leftovers. Clean contaminated surfaces wit an excess of water. Take collected spill to manufacturer/competent authority. Wash clothing ar equipment after handling.         6.4. Reference to other sections         No additional information available         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 for pumping over. Use spark-/explosionproof appliances and lighting system. Take precautions against electrostatic charges. Keep away from naked flames/heat. Keep ontainer tightly closed. Measure the concentration in the air regularly. Work under local exhaust/ventilation.         Hygiene measures       : Do not eat, drink or smoke when using this product. Wash contaminated clothing before reuse. Wash hands and other exposed areas with mild soap and water before eating, drinking or	For containment	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
No additional information available         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 is for pumping over. Use spark-/explosionproof appliances and lighting system. Take precautions sources/sparks. Observe normal hygiene standards. Keep container tightly closed. Measure the concentration in the air regularly. Work under local exhaust/ventilation.         Hygiene measures       : Do not eat, drink or smoke when using this product. Wash contaminated clothing before reuse. Wash hands and other exposed areas with mild soap and water before eating, drinking or	Methods for cleaning up	limestone. Scoop absorbed substance into closing containers. See "Material-handling" for suitable container materials. Damaged/cooled tanks must be emptied. Do not use compressed air for pumping over spills. Carefully collect the spill/leftovers. Clean contaminated surfaces with an excess of water. Take collected spill to manufacturer/competent authority. Wash clothing and
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 a 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       : Do not eat, drink or smoke when using this product. Wash contaminated clothing before reuse. Wash hands and other exposed areas with mild soap and water before eating, drinking or	6.4. Reference to other sections	
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 is 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       : Do not eat, drink or smoke when using this product. Wash contaminated clothing before reuse. Wash hands and other exposed areas with mild soap and water before eating, drinking or	No additional information available	
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 a 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: Do not eat, drink or smoke when using this product. Wash contaminated clothing before reuse. Wash hands and other exposed areas with mild soap and water before eating, drinking or	SECTION 7: Handling and storage	
<ul> <li>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 a 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 th concentration in the air regularly. Work under local exhaust/ventilation.</li> <li>Hygiene measures</li> <li>Do not eat, drink or smoke when using this product. Wash contaminated clothing before reuse. Wash hands and other exposed areas with mild soap and water before eating, drinking or</li> </ul>	7.1. Precautions for safe handling	
Wash hands and other exposed areas with mild soap and water before eating, drinking or	Precautions for safe handling	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
	Hygiene measures	

7.2.	Conditions for safe stor	ge, including any incompatibilities
Incomp	atible products	: Strong oxidizers. silver nitrate. Sodium hypochlorite.
Incomp	atible materials	: Direct sunlight. Heat sources. Sources of ignition.
Heat ar	nd ignition sources	: KEEP SUBSTANCE AWAY FROM: heat sources. ignition sources.

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Prohibitions on mixed storage	<ul> <li>KEEP SUBSTANCE AWAY FROM: oxidizing agents. (strong) acids. (strong) bases. amines. halogens.</li> </ul>
Storage area	Store in a cool area. 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. May be stored under nitrogen. Meet the legal requirements.
Special rules on packaging	<ul> <li>SPECIAL REQUIREMENTS: closing. with pressure relief valve. dry. clean. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.</li> </ul>
Packaging materials	: SUITABLE MATERIAL: stainless steel. monel steel. carbon steel. copper. nickel. bronze. glass. Teflon. polyethylene. polypropylene. zinc. MATERIAL TO AVOID: steel with rubber inner lining. aluminium.
7.3. Specific end use(s)	

No additional information available

Isopropyl Alcohol (2-Propan	ol) (67-63-0)	
USA ACGIH	ACGIH TWA (ppm)	200 ppm
USA ACGIH	ACGIH STEL (ppm)	200 ppm
USA OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	980 mg/m³
USA OSHA	OSHA PEL (TWA) (ppm)	400 ppm
3.2. Exposure controls Appropriate engineering control Materials for protective clothing	of any potential exposure. : GIVE EXCELLENT RESIS	tains and safety showers should be available in the immediate vicinity Ensure adequate ventilation. TANCE: butyl rubber. nitrile rubber. viton.
		alcohol. GIVE GOOD RESISTANCE: neoprene. GIVE LESS rene/natural rubber. GIVE POOR RESISTANCE: natural rubber.
Hand protection	: Gloves.	
Eye protection	: Safety glasses.	
Skin and body protection	: Protective clothing.	
Respiratory protection	· Wear gas mask with filter t	ype A if conc. in air > exposure limit.

		(
9.1. Information on basic physical and	chemical properties	
Physical state	: Liquid	
Appearance	: Liquid.	
Molecular mass	: 60.10 g/mol	
Colour	: Dark. Green.	
Odour	: Alcohol odour. Stuffy odour. Mild odour.	
Odour threshold	: 3 - 610 ppm 8 - 1499 mg/m³	
рН	: No data available	
Relative evaporation rate (butylacetate=1)	: 2.3	
Relative evaporation rate (ether=1)	: 21	
Melting point	: No data available	
Freezing point	: No data available	
Boiling point	: No data available	
Flash point	: No data available	
Self ignition temperature	: No data available	
Decomposition temperature	: No data available	
Flammability (solid, gas)	: No data available	
Vapour pressure	: 44 hPa	
Vapour pressure at 50 °C	: 229 hPa	
Relative vapour density at 20 °C	: 2.1	
Relative density	: No data available	
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Relative density of saturated gas/air mixture	: 1.05
Solubility	<ul> <li>Soluble in water. Soluble in ethanol. Soluble in ether. Soluble in acetone. Soluble in oils/fats.</li> <li>Soluble in chloroform.</li> <li>Water: Complete</li> <li>Ethanol: Complete</li> <li>Ether: Complete</li> <li>Acetone: soluble</li> </ul>
Log Pow	: No data available
Log Kow	: No data available
/iscosity, kinematic	: No data available
∕iscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: 2 - 13 vol % 50 - 335 g/m³
.2. Other information	
Ainimum ignition energy	: 0.65 mJ
Specific conductivity	: 5.8 μS/m
Saturation concentration	: 106 g/m³
/OC content	: 100 %
Other properties	: Gas/vapour heavier than air at 20°C. Clear. Volatile.
SECTION 10: Stability and reactivit	у
0.1. Reactivity	
Jpon combustion: CO and CO2 are formed. Vi peroxides.	olent to explosive reaction with (strong) oxidizers. Prolonged storage/in large quantities: may form
0.2. Chemical stability	
Stable under normal conditions.	
0.3. Possibility of hazardous reactions	
Not established.	
0.4. Conditions to avoid	
Direct sunlight. Heat. High temperature. Incom	patible materials. Open flame. Sparks.
0.5. Incompatible materials	

Strong oxidizers.

10.6. Hazardous decomposition products

Carbon dioxide. Carbon monoxide. Sulfur compounds. Hydrogen bromide.

SECT	ION 11: Toxicological information			
11.1.	Information on toxicological effects			

Acute toxicity

: Not classified

Isopropyl Alcohol (2-Propanol) (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)	
Water (7732-18-5)		
LD50 oral rat ≥ 90000 mg/kg		
Methyl Orange, Sodium Salt (547-58-0)		
LD50 oral rat	60 mg/kg (Rat)	
Skin corrosion/irritation	: Not classified	
Serious eye damage/irritation	: Causes serious eye irritation.	

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ccording to Federal Register / Vol. 77, No. 58 / Monday,	
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Universal Indicator, Bogens in Alcohol	
IARC group	3 - Not classifiable
Isopropyl Alcohol (2-Propanol) (67-63-0)	
IARC group	3 - Not classifiable
Phenolphthalein (77-09-8)	
IARC group	2B - Possibly carcinogenic to humans
Methyl Red, Free Acid (493-52-7)	
IARC group	3 - Not classifiable
Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: May cause drowsiness or dizziness.
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: Not classified
Symptoms/injuries after inhalation	: EXPOSURE TO HIGH CONCENTRATIONS: Coughing. Dry/sore throat. Central nervous system depression. Dizziness. Headache. Narcosis.
Symptoms/injuries after skin contact	: Dry skin.
Symptoms/injuries after eye contact	: Irritation of the eye tissue.
Symptoms/injuries after ingestion	: AFTER ABSORPTION OF HIGH QUANTITIES: Central nervous system depression. Headache. Dilation of the blood vessels. Low arterial pressure. Nausea. Vomiting. Abdominal pain. Disturbed motor response. Disturbances of consciousness. FOLLOWING SYMPTOMS MAY APPEAR LATER: Body temperature fall. Slowing respiration.
Chronic symptoms	: ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Red skin. Dry skin. Itching. Cracking o the skin. Skin rash/inflammation. Impaired memory.
Likely routes of exposure	: Inhalation;Skin and eye contact
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	<ul> <li>Ground water pollutant. Not harmful to fishes (LC50(96h) &gt;1000 mg/l). Not harmful to invertebrates (Daphnia) (EC50 (48h) &gt; 1000 mg/l). Not harmful to algae (EC50 (72h) &gt;1000 mg/l). Inhibition of activated sludge.</li> </ul>
Universal Indicator, Bogens in Alcohol	
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)
Isopropyl Alcohol (2-Propanol) (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)
2.2. Persistence and degradability	
Universal Indicator, Bogens in Alcohol	
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.
Isopropyl Alcohol (2-Propanol) (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 <sup>2</sup> /g substance

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Isopropyl Alcohol (2-Propanol) (67-63-0)			
Chemical oxygen demand (COD)	2.23 g O <sup>2</sup> /g substance		
ThOD	2.40 g O <sup>2</sup> /g substance		
BOD (% of ThOD)	0.49 % ThOD		
Water (7732-18-5)			
Persistence and degradability	Not established.		
Phenolphthalein (77-09-8)			
Persistence and degradability	Biodegradability in water: no data available. Photodegradation in the air.		
Methyl Orange, Sodium Salt (547-58-0)			
Persistence and degradability	Not readily biodegradable in water. Non degradable in the soil.		
Thymol Blue, Free Acid (76-16-9) Persistence and degradability	Not established.		
- ·			
Bromothymol Blue, Free Acid (76-59-5)			
Persistence and degradability	Not established.		
12.3. Bioaccumulative potential			
Universal Indicator, Bogens in Alcohol			
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).		
Isopropyl Alcohol (2-Propanol) (67-63-0)			
Log Pow	0.05 (Experimental value)		
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).		
Water (7732-18-5)			
Bioaccumulative potential	Not established.		
Phenolphthalein (77-09-8)			
Log Pow	2.41 (Experimental value)		
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).		
Methyl Orange, Sodium Salt (547-58-0)			
Log Pow	-0.66 (Estimated value)		
Bioaccumulative potential	Bioaccumulation: not applicable.		
Thymol Blue, Free Acid (76-16-9)			
Bioaccumulative potential	Not established.		
•			
Bromothymol Blue, Free Acid (76-59-5) Bioaccumulative potential	Not established.		
•	NUL ESLADIISTICU.		
12.4. Mobility in soil			
Universal Indicator, Bogens in Alcohol			
Surface tension	0.021 N/m (25 °C)		
Isopropyl Alcohol (2-Propanol) (67-63-0)			
Surface tension	0.021 N/m (25 °C)		
12.5 Other adverse affects			
12.5. Other adverse effects			

No additional information available

SECTI	ECTION 13: Disposal considerations				
13.1.	Waste treatment methods				
Waste d	isposal 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. Obtain the consent of pollution control authorities before discharging to wastewater treatment plants.			

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

 SECTION 14: Transport information
 In accordance with DOT

 Transport document description
 : UN1993 Flammable liquids, n.o.s. (Isopropanol), 3, II

 UN-No.(DOT)
 : 1993

 DOT NA no.
 : UN1993

: 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120

Department of Transportation (DOT) Hazard Classes

#### Hazard labels (DOT)

DOT Symbols

DOT Proper Shipping Name

: 3 - Flammable liquid

: Flammable liquids, n.o.s.



Isopropanol

- G Identifies PSN requiring a technical nameII Medium Danger
- Packing group (DOT) DOT Special Provisions (49 CFR 172.102)
- - the flash point of the hazardous material transported is greater than 0 C (32 F). TP28 - A portable tank having a minimum test pressure of 2.65 bar (265 kPa) may be used provided the calculated test pressure is 2.65 bar or less based on the MAWP of the hazardous material, as defined in 178.275 of this subchapter, where the test pressure is 1.5 times the MAWP.
- DOT Packaging Exceptions (49 CFR 173.xxx): 150DOT Packaging Non Bulk (49 CFR 173.xxx): 202DOT Packaging Bulk (49 CFR 173.xxx): 242
- DOT Quantity Limitations Passenger aircraft/rail : 5 L (49 CFR 173.27)
- DOT Quantity Limitations Cargo aircraft only (49 : 60 L CFR 175.75)
- DOT Vessel Stowage Location

B - (i) The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) "On deck only" on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded.
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Additional information	
Other information	: No supplementary information available.
State during transport (ADR-RID)	: as liquid.
ADR	
Transport document description	: UN 1219 Isopropanol (isopropyl alcohol), 3, II, (D/E)
Packing group (ADR)	: 11
Class (ADR)	: 3 - Flammable liquids
Hazard identification number (Kemler No.)	: 33
Classification code (ADR)	: F1

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Danger labels (ADR)	: 3 - Flammable liquids
	3
Orange plates	33
	1219
Tunnel restriction code	: D/E
Transport by sea	
UN-No. (IMDG)	: 1219
Class (IMDG)	: 3 - Flammable liquids
EmS-No. (1)	: F-E
EmS-No. (2)	: S-D
Air transport	
UN-No.(IATA)	: 1219

### **SECTION 15: Regulatory information**

#### 15.1. US Federal regulations

Class (IATA)

Packing group (IATA)

Isopropyl Alcohol (2-Propanol) (67-63-0)
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on SARA Section 313 (Specific toxic chemical listings)
Water (7732-18-5)
Listed on the United States TSCA (Toxic Substances Control Act) inventory
Phenolphthalein (77-09-8)
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on SARA Section 313 (Specific toxic chemical listings)
Methyl Orange, Sodium Salt (547-58-0)
Listed on the United States TSCA (Toxic Substances Control Act) inventory
Thymol Blue, Free Acid (76-16-9)
Listed on the United States TSCA (Toxic Substances Control Act) inventory
Methyl Red, Free Acid (493-52-7)
Listed on the United States TSCA (Toxic Substances Control Act) inventory
Bromothymol Blue, Free Acid (76-59-5)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

: 3 - Flammable Liquids

: II - Medium Danger

### 15.2. International regulations

#### CANADA

Universal Indicator, Bogens in Alcohol		
WHMIS Classification	Class B Division 2 - Flammable Liquid	
	Class D Division 2 Subdivision B - Toxic material causing other toxic effects	
Isopropyl Alcohol (2-Propanol) (67-63-0)		
WHMIS Classification	Class B Division 2 - Flammable Liquid Class D Division 2 Subdivision B - Toxic material causing other toxic effects	
Water (7732-18-5)		
Listed on the Canadian DSL (Domestic Sustances List) inventory.		
WHMIS Classification	Uncontrolled product according to WHMIS classification criteria	

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r			
Phenolphthalein (77-09-8)			
Listed on the Canadian DSL (Domestic Sustances List) inventory.			
WHMIS Classification	Class D Division 2 Subdivision A - Very toxic material causing other toxic effects		
Methyl Orange, Sodium Salt (547-58-0)			
Listed on the Canadian DSL (Domestic Sustances List) inventory. Not listed on the Canadian DSL (Domestic Sustances List) inventory.			
WHMIS Classification	Class D Division 1 Subdivision B - Toxic material causing immediate and serious toxic effects		
Thymol Blue, Free Acid (76-16-9)			
Listed on the Canadian DSL (Domestic Sustances List) inventory.			
WHMIS Classification	Uncontrolled product according to WHMIS classification criteria		
Bromothymol Blue, Free Acid (76-59-5)			
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 Xi; R36 R67

Full text of R-phrases: see section 16

#### 15.2.2. National regulations

Water (7732-18-5)	
Not listed on the Canadian Ingredient Disclosure List	
Phenolphthalein (77-09-8)	
Listed on the Canadian Ingredient Disclosure List	
Thymol Blue, Free Acid (76-16-9)	
Not listed on the Canadian Ingredient Disclosure List	
Bromothymol Blue, Free Acid (76-59-5)	
Not listed on the Canadian Ingredient Disclosure List	

Not listed on the Canadian Ingredient Disclosur

#### 15.3. US State regulations

Phenolphthalein (77-09-8)				
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				

### **SECTION 16: Other information**

Full tex	t of H-phrases: see section 16:	
	Acute Tox. 3 (Oral)	Acute to

Safety Data Sheet according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Carc. 2	Carcinogenicity, Category 2
Eye Irrit. 2A	Serious eye damage/eye irritation, Category 2A
Flam. Liq. 2	Flammable liquids, Category 2
Muta. 2	Germ cell mutagenicity, Category 2
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Narcosis
H225	Highly flammable liquid and vapour
H301	Toxic if swallowed
H319	Causes serious eye irritation
H336	May cause drowsiness or dizziness
H341	Suspected of causing genetic defects
H351	Suspected of causing cancer

NFPA health hazard	: 1 - Exposure could cause irritation but only minor residual injury even if no treatment 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	: 1 Slight Hazard - Irritation or minor reversible injury possible
Flammability	: 3 Serious Hazard
Physical	: 0 Minimal Hazard
Personal Protection	: H

SDS US (GHS HazCom 2012)

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