Safety Data Sheet

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

DIAGNOSTICS INC. Date of issue: 07/03/2013

Revision date: 11/15/2013

Supersedes: 10/02/2013

Version: 1.2

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

1.1. Product identifier		
Product form	: Substance	
Substance name	: Methanol	
CAS No	: 67-56-1	
Product code	: VT430	
Formula	: CH4O	
Synonyms	 acetone alcohol / alcohol C1 / alcohol, methyl / carbinol / colonial spirits / columbian spirits / green wood spirits / manhattan spirits / methyl alcohol / methyl hydrate / methyl hydroxide / methylen / methylol / monohydroxymethane / pyroligneous spirit / pyroxylic spirit / wood alcohol / wood naphtha 	
1.2. Relevant identified uses of the substance or mixture and uses advised against		

Use of the substance/mixture	: Solvent
1.3. Details of the supplier of the s	afety data sheet
Val Tech Diagnostics, A Division of LabCh Jackson's Pointe Commerce Park Building 1010 Jackson's Pointe Court Zelienople, PA 16063 T 412-826-5230 F 724-473-0647	
1.4. Emergency telephone number	
Emergency number	: CHEMTREC: 1-800-424-9300 or 011-703-527-3887
SECTION 2: Hazards identificati	on
2.1. Classification of the substance	e or mixture
GHS-US classification	
Flam. Liq. 2H225Acute Tox. 3 (Oral)H301Acute Tox. 3 (Dermal)H311Acute Tox. 3 (Inhalation)H331	
STOT SE 1 H370	
2.2. Label elements	
GHS-US labelling	
Hazard pictograms (GHS-US)	HS02 GHS06 GHS08
Signal word (GHS-US)	: Danger
Hazard statements (GHS-US)	: H225 - Highly flammable liquid and vapour H301+H311+H331 - Toxic if swallowed, in contact with skin or if inhaled

Precautionary statements (GHS-US)

- oral)
- : P210 Keep away from heat, sparks, open flames, hot surfaces. No smoking

H370 - Causes damage to organs (liver, kidneys, central nervous system, optic nerve) (Dermal,

- P233 Keep container tightly closed
- P240 Ground/bond container and receiving equipment
- P241 Use explosion-proof electrical, ventilating, lighting equipment
- P242 Use only non-sparking tools
- P243 Take precautionary measures against static discharge
- P260 Do not breathe mist, vapours, spray
- 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 protective gloves, protective clothing, eye protection, face protection

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

	P30 clott P30 for t P33 P36 P37 extin P40 P23 P40	 1 + P310 - IF SWALLOWED: immediatel 3 + P361 + P353 - IF ON SKIN (or hair): ning. Rinse skin with water/shower 4 + P340 - IF INHALED: remove victim to preathing 0 - If swallowed, rinse mouth 3 - Wash contaminated clothing before reformed by the state of the s	Remove/Take of o fresh air and ke euse oxide (CO2), pov e. Keep containe	f immediately all contaminated ep at rest in a position comfortable vder, alcohol-resistant foam for r tightly closed
2.3. Other hazards				
Other hazards not contributing to the classification	: Non	e.		
2.4. Unknown acute toxicity (GHS-US)				
No data available				
SECTION 3: Composition/informatio	n on i	ngredients		
3.1. Substance				
Substance type		no-constituent		
lame	: Met	hanol		
CAS No	: 67-5			
EC no		-659-6		
EC index no	: 603	-001-00-X		
Name		Product identifier	%	GHS-US classification
Methanol (Main constituent)		(CAS No) 67-56-1	100	Flam. Liq. 2, H225 Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311
				Acute Tox. 3 (Inhalation), H331 STOT SE 1, H370
Full text of H-phrases: see section 16				Acute Tox. 3 (Inhalation), H331
				Acute Tox. 3 (Inhalation), H331
3.2. Mixture				Acute Tox. 3 (Inhalation), H331
3.2. Mixture Not applicable				Acute Tox. 3 (Inhalation), H331
Full text of H-phrases: see section 16 3.2. Mixture Not applicable SECTION 4: First aid measures 4.1. Description of first aid measures				Acute Tox. 3 (Inhalation), H331
B.2. Mixture Not applicable BECTION 4: First aid measures BECTION 4: First aid measures Bescription of first aid measures	arre labc prev Kee	eck the vital functions. Unconscious: main st: artificial respiration or oxygen. Cardiad pured breathing: half-seated. Victim in sho vent asphyxia/aspiration pneumonia. Prev p watching the victim. Give psychologica er give alcohol to drink.	c arrest: perform ock: on his back vent cooling by co	Acute Tox. 3 (Inhalation), H331 STOT SE 1, H370 way and respiration. Respiratory resuscitation. Victim conscious wit with legs slightly raised. Vomiting: overing the victim (no warming up).
Act applicable SECTION 4: First aid measures I.1. Description of first aid measures First-aid measures general	arre labo prev Kee Nev	st: artificial respiration or oxygen. Cardiac bured breathing: half-seated. Victim in sho vent asphyxia/aspiration pneumonia. Prev p watching the victim. Give psychologica	c arrest: perform ock: on his back v vent cooling by co I aid. Keep the vi	Acute Tox. 3 (Inhalation), H331 STOT SE 1, H370 way and respiration. Respiratory resuscitation. Victim conscious wit with legs slightly raised. Vomiting: povering the victim (no warming up). ctim calm, avoid physical strain.
3.2. Mixture Not applicable SECTION 4: First aid measures	arre labc prev Kee Nev : Ren : Was	st: artificial respiration or oxygen. Cardiac bured breathing: half-seated. Victim in sho vent asphyxia/aspiration pneumonia. Prev p watching the victim. Give psychologica er give alcohol to drink.	c arrest: perform ock: on his back v vent cooling by co l aid. Keep the vi v consult a doctor ay be used. Do r	Acute Tox. 3 (Inhalation), H331 STOT SE 1, H370 way and respiration. Respiratory resuscitation. Victim conscious wit with legs slightly raised. Vomiting: overing the victim (no warming up) ctim calm, avoid physical strain.
B.2. Mixture Not applicable SECTION 4: First aid measures SECTION 5: First aid measures First-aid measures general	arre labo prev Kee Nev : Ren : Was age	st: artificial respiration or oxygen. Cardiac bured breathing: half-seated. Victim in sho vent asphyxia/aspiration pneumonia. Prev p watching the victim. Give psychologica er give alcohol to drink. nove the victim into fresh air. Immediately sh immediately with lots of water. Soap m	c arrest: perform ock: on his back y vent cooling by co l aid. Keep the vi v consult a doctor ay be used. Do r onsult a doctor/m	Acute Tox. 3 (Inhalation), H331 STOT SE 1, H370 way and respiration. Respiratory resuscitation. Victim conscious wit with legs slightly raised. Vomiting: overing the victim (no warming up), ctim calm, avoid physical strain.
Act applicable SECTION 4: First aid measures SECTION 5: First aid measures Section of first aid measures First-aid measures after inhalation First-aid measures after skin contact First-aid measures after eye contact	arre labc prev Kee Nev : Ren : Was age : Rins doct larg	st: artificial respiration or oxygen. Cardiac bured breathing: half-seated. Victim in sho vent asphyxia/aspiration pneumonia. Prev p watching the victim. Give psychologica er give alcohol to drink. nove the victim into fresh air. Immediately sh immediately with lots of water. Soap m nts. Remove clothing before washing. Co	c arrest: perform bck: on his back y vent cooling by co l aid. Keep the vi v consult a doctor ay be used. Do r unsult a doctor/mo ologist if irritatior k. Do not induce on Centre (www. e the container/v	Acute Tox. 3 (Inhalation), H331 STOT SE 1, H370 way and respiration. Respiratory resuscitation. Victim conscious wit with legs slightly raised. Vomiting: overing the victim (no warming up) ctim calm, avoid physical strain. //medical service. not apply (chemical) neutralizing edical service. n persists. vomiting. Immediately consult a big.be/antigif.htm). Ingestion of
Act applicable SECTION 4: First aid measures SECTION 5: First aid measures Section of first aid measures	arre labc prev Kee Nev : Ren : Was age : Rins doct larg adm	st: artificial respiration or oxygen. Cardiac bured breathing: half-seated. Victim in sho yent asphyxia/aspiration pneumonia. Prev p watching the victim. Give psychologica er give alcohol to drink. nove the victim into fresh air. Immediately sh immediately with lots of water. Soap m nts. Remove clothing before washing. Co se with water. Take victim to an ophthalm se mouth with water. Give nothing to drinl tor/medical service. Call Poison Informati e quantities: immediately to hospital. Tak inistration of chemical antidote. Doctor: g	c arrest: perform bck: on his back y vent cooling by co l aid. Keep the vi v consult a doctor ay be used. Do r unsult a doctor/mo ologist if irritatior k. Do not induce on Centre (www. e the container/v	Acute Tox. 3 (Inhalation), H331 STOT SE 1, H370 way and respiration. Respiratory resuscitation. Victim conscious wit with legs slightly raised. Vomiting: overing the victim (no warming up) ctim calm, avoid physical strain. //medical service. not apply (chemical) neutralizing edical service. n persists. vomiting. Immediately consult a big.be/antigif.htm). Ingestion of
Act applicable SECTION 4: First aid measures SECTION 5: First aid measures In Description of first aid measures First-aid measures general First-aid measures after inhalation First-aid measures after skin contact First-aid measures after eye contact First-aid measures after ingestion Action of the structure of the	arre labc prev Kee Nev : Ren : Was age : Rins doct larg adm : Slig	st: artificial respiration or oxygen. Cardiac bured breathing: half-seated. Victim in sho yent asphyxia/aspiration pneumonia. Prev p watching the victim. Give psychologica er give alcohol to drink. nove the victim into fresh air. Immediately sh immediately with lots of water. Soap m nts. Remove clothing before washing. Co se with water. Take victim to an ophthalm se mouth with water. Give nothing to drinl tor/medical service. Call Poison Informati e quantities: immediately to hospital. Tak inistration of chemical antidote. Doctor: g	c arrest: perform bock: on his back y vent cooling by co l aid. Keep the vi v consult a doctor ay be used. Do r onsult a doctor/mo ologist if irritation k. Do not induce on Centre (www. e the container/v jastric lavage.	Acute Tox. 3 (Inhalation), H331 STOT SE 1, H370 way and respiration. Respiratory resuscitation. Victim conscious wit with legs slightly raised. Vomiting: overing the victim (no warming up) ctim calm, avoid physical strain. /medical service. not apply (chemical) neutralizing edical service. n persists. vomiting. Immediately consult a big.be/antigif.htm). Ingestion of omit to the doctor/hospital. Doctor:
B.2. Mixture Not applicable SECTION 4: First aid measures SECTION 5: First aid measures First-aid measures general First-aid measures after inhalation First-aid measures after skin contact First-aid measures after eye contact First-aid measures after ingestion	arre labc prev Kee Nev : Ren : Was age : Rins doct larg adm : Slig thos	st: artificial respiration or oxygen. Cardiac bured breathing: half-seated. Victim in sho yent asphyxia/aspiration pneumonia. Prev p watching the victim. Give psychologica er give alcohol to drink. nove the victim into fresh air. Immediately sh immediately with lots of water. Soap m nts. Remove clothing before washing. Co se with water. Take victim to an ophthalm se mouth with water. Give nothing to drinl tor/medical service. Call Poison Informati e quantities: immediately to hospital. Tak inistration of chemical antidote. Doctor: g n acute and delayed ht irritation. EXPOSURE TO HIGH CONC	c arrest: perform bock: on his back y vent cooling by co l aid. Keep the vi v consult a doctor ay be used. Do n onsult a doctor/mo ologist if irritation k. Do not induce on Centre (www. e the container/v gastric lavage.	Acute Tox. 3 (Inhalation), H331 STOT SE 1, H370 way and respiration. Respiratory resuscitation. Victim conscious wit with legs slightly raised. Vomiting: overing the victim (no warming up). ctim calm, avoid physical strain. '/medical service. not apply (chemical) neutralizing edical service. n persists. vomiting. Immediately consult a big.be/antigif.htm). Ingestion of omit to the doctor/hospital. Doctor: Coughing. Symptoms similar to

Safety Data Sheet

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

Symptoms/injuries after ingestion	M W M D	Lausea. Vomiting. AFTER ABSORPTION OF HIGH QUANTITIES: FOLLOWING SYMPTOMS MAY APPEAR LATER: Change in the haemogramme/blood composition. Headache. Feeling of veakness. Abdominal pain. Muscular pain. Central nervous system depression. Dizziness. Mental confusion. Drunkenness. Coordination disorders. Disturbed motor response. Disturbances of consciousness. Visual disturbances. Blindness. Respiratory difficulties. Cramps/uncontrolled muscular contractions.
Chronic symptoms	ra	ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Red skin. Dry skin. Skin ash/inflammation. Headache. Disturbed tactile sensibility. Visual disturbances. Sleeplessness. Bastrointestinal complaints. Cardiac and blood circulation effects.

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

Hospitalize at once. Until victim can be cared for by specialized staff:

SECTION 5: Firefighting measures	
.1. Extinguishing media	
Suitable extinguishing media	: Preferably: alcohol resistant foam. Water spray. BC powder. Carbon dioxide.
Insuitable extinguishing media	: Solid water jet ineffective as extinguishing medium.
5.2. Special hazards arising from the su	ibstance or mixture
ire hazard	 DIRECT FIRE HAZARD. Highly flammable. Gas/vapour flammable with air within explosion limits. INDIRECT FIRE HAZARD. May be ignited by sparks.
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	On heating: release of toxic/corrosive/combustible gases/vapours (formaldehyde). Upon combustion: CO and CO2 are formed. Violent to explosive reaction with (some) metal powders and with (strong) oxidizers. Violent exothermic reaction with (some) acids and with (some) halogens compounds.
3. Advice for firefighters	
irefighting instructions	: Cool tanks/drums with water spray/remove them into safety. Do not move the load if exposed to heat. Take account of toxic fire-fighting water. Use water moderately and if possible collect or contain it.
Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection.
SECTION 6: Accidental release mea	sures
	quipment and emergency procedures
5.1.1. For non-emergency personnel	
Protective equipment	: Gas-tight suit.
mergency procedures	: Keep upwind. Mark the danger area. Consider evacuation. 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.
5.1.2. For emergency responders	
Protective equipment	: Equip cleanup crew with proper protection.
Emergency procedures	: Stop leak if safe to do so. Ventilate area.
2. Environmental precautions	
Prevent soil and water pollution. Prevent spread	ling in sewers.
3.3. Methods and material for containm	ent and cleaning up
or 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 combustible/toxic gases/vapours with water spray. Take account of toxic/corrosive precipitation water. Provide equipment/receptacles with earthing. Do not use compressed air for pumping over spills.
<i>l</i> lethods for cleaning up	: Take up liquid spill into a non combustible material e.g.: sand, earth, vermiculite slaked lime or soda ash. 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.
.4. Reference to other sections	

Safety Data Sheet

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

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 strict hygiene. 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 hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Wash contaminated clothing before reuse.		
7.2. Conditions for safe storage, including any incompatibilities			
Incompatible products	: Strong oxidizers. Strong bases. Strong acids. Acid anhydrides. Acid chlorides.		
Incompatible materials	: Direct sunlight. Heat sources. Sources of ignition.		
Heat and ignition sources	: KEEP SUBSTANCE AWAY FROM: heat sources. ignition sources.		
Prohibitions on mixed storage	: KEEP SUBSTANCE AWAY FROM: combustible materials. oxidizing agents. (strong) acids. (strong) bases. halogens. amines. water/moisture.		
Storage area	 Store at room temperature. Keep out of direct sunlight. Store in a dry area. Keep container in a well-ventilated place. Fireproof storeroom. Keep locked up. Provide for a tub to collect spills. Provide the tank with earthing. Unauthorized persons are not admitted. Aboveground. 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: steel. stainless steel. iron. glass. MATERIAL TO AVOID: lead. aluminium. zinc. polyethylene. PVC.		
7.3 Specific and use(s)			

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Methanol (67-56-1)			
USA ACGIH	ACGIH TWA (ppm)	200 ppm	
USA ACGIH	ACGIH STEL (ppm)	200 ppm	
USA OSHA	OSHA PEL (TWA) (mg/m ³)	260 mg/m ³	
USA OSHA	OSHA PEL (TWA) (ppm)	200 ppm	

8.2. Exposure controls	
Appropriate engineering controls	: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Keep concentrations well below lower explosion limits.
Personal protective equipment	: Safety glasses. Protective clothing. Gloves. Full protective flameproof clothing. Face shield.
Materials for protective clothing	: GIVE EXCELLENT RESISTANCE: No data available. GIVE GOOD RESISTANCE: polyethylene/ethylenevinylalcohol. styrene-butadiene rubber. viton. GIVE LESS RESISTANCE: chloroprene rubber. chlorinated polyethylene. natural rubber. nitrile rubber/PVC. GIVE POOR RESISTANCE: leather. neoprene. nitrile rubber. polyethylene. PVA. PVC. polyurethane.
Hand protection	: Gloves.
Eye protection	: Combined eye and respiratory protection. Safety glasses.
Skin and body protection	: Head/neck protection. Protective clothing.
Respiratory protection	: Gas mask with filter type AX at conc. in air > exposure limit. Wear gas mask with filter type A if

Gas mask with filter type AX at conc. in air > exposure limit. Wear gas mask with filter type A if conc. in air > exposure limit. High vapour/gas concentration: self-contained respirator.

SECTION 9: Physical and chemical properties		
9.1. Information on basic physical and chemical properties		
Physical st	tate : Liquid	
05/15/2014	EN (English)	4/10

Safety Data Sheet

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

Molecular mass: 32.04 g/molColour: Colourless.Odour: Characteristic odour. Mild odour. Pleasant odour. Alcohol odour. Commercial/unpurified substance: Irritating/pungent odour.Odour threshold: 2000 - 8800 ppm 2620 - 11528 mg/m³pH: No data availableRelative evaporation rate (butylacetate=1): 4.1Relative evaporation rate (butylacetate=1): 6.3Melting point: 98 °CFreezing point: No data availableBoiling point: 65 °CFlash point: 11 °CCritical temperature: 240 °CSelf ignition temperature: 40 °CSelf ignition temperature: No data availablePlanmability (solid, gas): No data availableVapour pressure at 50 °C: St52 PaCritical pressure: 128 NPaVapour pressure at 50 °C: 552 PaRelative evapour density at 20 °C: 552 NPaRelative density of saturated gas/air mixture: 1.0Density: 792 kg/m³	According to Federal Register / Vol. 77, No. 58 / Monday Appearance	: Liquid.
Colour: Colourless.Odour: Characteristic odour. Mild odour. Pleasant odour. Alcohol odour. Commercial/unpurified substance: Irritating/pungent odour.Odour threshold: 2000 - 8800 ppm 2620 - 11528 mg/m³pH: No data availableRelative evaporation rate (butylacetate=1): 4.1Relative evaporation rate (ether=1): 6.3Metting point: 98 °CFreezing point: No data availableBoiling point: 10 °CFlash point: 11 °CCritical temperature: 240 °CSelf ignition temperature: 455 °CPecomposition temperature: No data availableVapour pressure at 50 °C: 52 hPaVapour pressure at 50 °C: 52 hPaRelative density of saturated gas/air mixture: 1.0Relative density of saturated gas/air mixture: 792 kg/m³Solubility: 792 kg/m³Solubility: Freezing point		: 32.04 g/mol
Automaticalsubstance: Irritating/pungent odour.Odour threshold: 2000 - 8800 ppm 2620 - 11528 mg/m³pH: No data availableRelative evaporation rate (butylacetate=1): 4.1Relative evaporation rate (bther=1): 6.3Melting point: 98 °CFreezing point: No data availableBoiling point: 66 °CFlash point: 11 °CCritical temperature: 455 °CDecomposition temperature: No data availableVapour pressure: No data availableVapour pressure: No data availableVapour pressure at 50 °C: St2 PhaCritical pensity of saturated gas/air mixture: 1.0Relative density of saturated gas/air mixture: 1.0Relative density of saturated gas/air mixture: 1.0Density: 792 kg/m³Solubility: 792 kg/m³Solubility: Complete Ethanch: Complete Ethanch: Complete Ethen: Complete Ethen: Complete Ethen: Complete Ethen: Complete Ethen: Complete Ethen: Complete Ethen: Complete	Colour	
PH2620 - 11528 mg/m³pHNo data availableRelative evaporation rate (butylacetate=1)4Relative evaporation rate (ether=1)6Belative evaporation rate (ether=1)98 °CFreezing point98 °CFreezing point65 °CFlash point11 °CCritical temperature240 °CSelf ginition temperature240 °CParametrike55 °CDecomposition temperature245 °CVapour pressure at 50 °CNo data availableVapour pressure at 50 °C552 hPaCritical pressure128 hPaRelative vapour density at 20 °C11.1Relative density of saturated gas/air mixture10.79Relative density of saturated gas/air mixture10.79SolubilitySoluble in water. Soluble in ethenol. Soluble in ether. Soluble in acetone. Soluble in chlorofor Water: Complete Ethern: Complete Ethern: Complete Ethern: Complete Ethern: Complete Ethern: Complete Ethern: Complete	Odour	
Relative evaporation rate (butylacetate=1):4.1Relative evaporation rate (ether=1):6.3Metting point:-98 °CFreezing point:No data availableBoiling point:65 °CFlash point:1 °CCritical temperature:240 °CDecomposition temperature:455 °CDecomposition temperature:No data availablePlanmability (solid, gas):No data availableVapour pressure:128 hPaVapour pressure:552 hPaCritical pressure:79547 hPaRelative density of saturated gas/air mixture:1.0Density::792 kg/m³Solubility:Solubile in water. Soluble in ethanol. Soluble in acetone. Soluble in chlorofor Water: Complete Ether: Complete Ether: Complete	Odour threshold	
Relative evaporation rate (ether=1): 6.3Melting point: 98 °CFreezing point: No data availableBoiling point: 65 °CFlash point: 11 °CCritical temperature: 240 °CSelf ignition temperature: 455 °CDecomposition temperature: No data availableFlammability (solid, gas): No data availableVapour pressure at 50 °C: 525 hPaCritical pressure: 552 hPaCritical pressure at 50 °C: 552 hPaRelative density of saturated gas/air mixture: 1.0Density: 792 kg/m³Solubility: Soluble in water. Soluble in ethanol. Soluble in acetone. Soluble in chlorofor Water: Complete Ethero. Complete Ethero. Complete	рН	: No data available
Melting point::: 98 °CFreezing point:No data availableBolling point:: 65 °CFlash point:: 11 °CCritical temperature:: 240 °CSelf ignition temperature:: 455 °CDecomposition temperature:No data availableFlammability (solid, gas):No data availableVapour pressure at 50 °C:128 hPaCritical pressure:: 552 hPaRelative density of saturated gas/air mixture:1.0Relative density of saturated gas/air mixture:1.0Density:Soluble in water. Soluble in ethanol. Soluble in actone. Soluble in chlorofor Water: Complete Ethanol: Complete Ethen: Complete Acetone: Complete	Relative evaporation rate (butylacetate=1)	: 4.1
Freezing point:No data availableBoiling point:65 °CFlash point:11 °CCritical temperature:240 °CSelf ignition temperature:455 °CDecomposition temperature:No data availableFlammability (solid, gas):No data availableVapour pressure:128 hPaVapour pressure at 50 °C:552 hPaCritical pressure:79547 hPaRelative vapour density at 20 °C:1.1Relative density:0.79Relative density of saturated gas/air mixture:1.0Density:Soluble in water. Soluble in ethanol. Soluble in acetone. Soluble in chlorofor Water: Complete Ethanol: Complete Etharo.: Complete Ether: Complete Acetone: Complete	Relative evaporation rate (ether=1)	: 6.3
Boiling point::: <t< td=""><td>Melting point</td><td>: -98 °C</td></t<>	Melting point	: -98 °C
Flash point: 11 °CCritical temperature: 240 °CSelf ignition temperature: 455 °CDecomposition temperature: No data availableFlammability (solid, gas): No data availableVapour pressure: 128 hPaVapour pressure at 50 °C: 552 hPaCritical pressure: 79547 hPaRelative vapour density at 20 °C: 1.1Relative density: 0.79Relative density of saturated gas/air mixture: 1.0Density: 792 kg/m³Solubility: Soluble in water. Soluble in ethanol. Soluble in ether. Soluble in acetone. Soluble in chlorofor Water: Complete Ethanol: Complete Ethanol: Complete	Freezing point	: No data available
Critical temperature: 240 °CSelf ignition temperature: 455 °CDecomposition temperature: No data availableFlammability (solid, gas): No data availableVapour pressure: 128 hPaVapour pressure at 50 °C: 552 hPaCritical pressure: 79547 hPaRelative vapour density at 20 °C: 1.1Relative density: 0.79Relative density of saturated gas/air mixture: 1.0Density: 501uble in water. Soluble in ethanol. Soluble in ether. Soluble in actone. Soluble in chlorofor Water: Complete Ethanol: Complete Ether: Complete Ether: Complete	Boiling point	: 65 °C
Self ignition temperature: 455 °CDecomposition temperature: No data availableFlammability (solid, gas): No data availableVapour pressure: 128 hPaVapour pressure at 50 °C: 552 hPaCritical pressure: 79547 hPaRelative vapour density at 20 °C: 1.1Relative density: 0.79Relative density of saturated gas/air mixture: 1.0Density: Soluble in water. Soluble in ethanol. Soluble in ether. Soluble in acetone. Soluble in chloroforWater: Complete Ethanol: Complete Ethanol: Complete	Flash point	: 11 °C
Decomposition temperature: No data availableFlammability (solid, gas): No data availableVapour pressure: 128 hPaVapour pressure at 50 °C: 552 hPaCritical pressure: 79547 hPaRelative vapour density at 20 °C: 1.1Relative density: 0.79Relative density of saturated gas/air mixture: 1.0Density: 792 kg/m³Solubility: Soluble in water. Soluble in ethanol. Soluble in ether. Soluble in acetone. Soluble in chlorofor Water: Complete Ethanol: Complete Ether. Complete	Critical temperature	: 240 °C
Flammability (solid, gas): No data availableVapour pressure: 128 hPaVapour pressure at 50 °C: 552 hPaCritical pressure: 79547 hPaRelative vapour density at 20 °C: 1.1Relative density: 0.79Relative density of saturated gas/air mixture: 1.0Density: 792 kg/m³Solubility: Soluble in water. Soluble in ethanol. Soluble in ether. Soluble in acetone. Soluble in chlorofor Water: Complete Ethanol: Complete Ether. Complete	Self ignition temperature	: 455 °C
Vapour pressure: 128 hPaVapour pressure at 50 °C: 552 hPaCritical pressure: 79547 hPaRelative vapour density at 20 °C: 1.1Relative density: 0.79Relative density of saturated gas/air mixture: 1.0Density: 792 kg/m³Solubility: Soluble in water. Soluble in ethanol. Soluble in ether. Soluble in acetone. Soluble in chlorofor Water: Complete Ethanol: Complete Ether: Complete	Decomposition temperature	: No data available
Vapour pressure at 50 °C: 552 hPaCritical pressure: 79547 hPaRelative vapour density at 20 °C: 1.1Relative density: 0.79Relative density of saturated gas/air mixture: 1.0Density: 792 kg/m³Solubility: Soluble in water. Soluble in ethanol. Soluble in ether. Soluble in acetone. Soluble in chlorofor Water: Complete Ethanol: Complete Ether: Complete Acetone: Complete	Flammability (solid, gas)	: No data available
Critical pressure: 79547 hPaRelative vapour density at 20 °C: 1.1Relative density: 0.79Relative density of saturated gas/air mixture: 1.0Density: 792 kg/m³Solubility: Soluble in water. Soluble in ethanol. Soluble in ether. Soluble in acetone. Soluble in chlorofor Water: Complete Ethanol: Complete Ether: Complete Acetone: Complete	Vapour pressure	: 128 hPa
Relative vapour density at 20 °C : 1.1 Relative density : 0.79 Relative density of saturated gas/air mixture : 1.0 Density : 792 kg/m³ Solubility : Soluble in water. Soluble in ethanol. Soluble in ether. Soluble in acetone. Soluble in chlorofor Water: Complete Ethanol: Complete Ether: Complete Acetone: Complete	Vapour pressure at 50 °C	: 552 hPa
Relative density : 0.79 Relative density of saturated gas/air mixture : 1.0 Density : 792 kg/m³ Solubility : Soluble in water. Soluble in ethanol. Soluble in ether. Soluble in acetone. Soluble in chlorofor Water: Complete Ethanol: Complete Ether: Complete Acetone: Complete	Critical pressure	: 79547 hPa
Relative density of saturated gas/air mixture : 1.0 Density : 792 kg/m³ Solubility : Soluble in water. Soluble in ethanol. Soluble in ether. Soluble in acetone. Soluble in chlorofor Water: Complete Ethanol: Complete Ethanol: Complete Ether: Complete Ether: Complete Acetone: Complete Complete	Relative vapour density at 20 °C	: 1.1
Density : 792 kg/m³ Solubility : Soluble in water. Soluble in ethanol. Soluble in ether. Soluble in acetone. Soluble in chlorofor Water: Complete Ethanol: Complete Ether: Complete Ether: Complete Acetone: Complete Acetone: Complete	Relative density	: 0.79
Solubility : Soluble in water. Soluble in ethanol. Soluble in ether. Soluble in acetone. Soluble in chlorofor Water: Complete Ethanol: Complete Ether: Complete Ether: Complete Acetone: Complete Acetone: Complete	Relative density of saturated gas/air mixture	: 1.0
Water: Complete Ethanol: Complete Ether: Complete Acetone: Complete	Density	: 792 kg/m³
Log Pow : -0.77 (Experimental value; Other, Experimental value; Other)	Solubility	Ethanol: Complete Ether: Complete
	Log Pow	: -0.77 (Experimental value; Other, Experimental value; Other)
Log Kow : No data available	Log Kow	: No data available
Viscosity, kinematic : No data available	Viscosity, kinematic	: No data available
Viscosity, dynamic : 0.6 mPa.s (20 °C)	Viscosity, dynamic	: 0.6 mPa.s (20 °C)
Explosive properties : No data available	Explosive properties	: No data available
Oxidising properties : No data available	Oxidising properties	: No data available
Explosive limits : 5.5 - 36.5 vol %	Explosive limits	: 5.5 - 36.5 vol %
9.2. Other information	9.2. Other information	
Minimum ignition energy : 0.14 mJ	Minimum ignition energy	: 0.14 mJ
Saturation concentration : 166 g/m ³	Saturation concentration	: 166 g/m ³
VOC content : 100 %	VOC content	: 100 %
Other properties : Clear. Hygroscopic. Volatile. Substance has neutral reaction.	Other properties	: Clear. Hygroscopic. Volatile. Substance has neutral reaction.

SECTION 10: Stability and reactivity

10.1. Reactivity

On heating: release of toxic/corrosive/combustible gases/vapours (formaldehyde). Upon combustion: CO and CO2 are formed. Violent to explosive reaction with (some) metal powders and with (strong) oxidizers. Violent exothermic reaction with (some) acids and with (some) halogens compounds.

10.2. Chemical stability

Hygroscopic.

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

Direct sunlight. High temperature. Incompatible materials. Open flame. Sparks. Overheating.

Acute toxicity

Safety Data Sheet

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

10.5.	Incompatible materials

Strong oxidizers. Strong bases. Strong acids. Peroxides. Acid anhydrides. Acid chlorides.

10.6. Hazardous decomposition products

Carbon dioxide. Carbon monoxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

: Toxic if swallowed. Toxic in contact with skin. Toxic if inhaled.

Methanol (\f)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	: Not classified
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: Causes damage to organs (liver, kidneys, central nervous system, optic nerve) (Dermal, oral).
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: Not classified
Symptoms/injuries after inhalation	: Slight irritation. EXPOSURE TO HIGH CONCENTRATIONS: Coughing. Symptoms similar to those listed under ingestion.
Symptoms/injuries after skin contact	: Symptoms similar to those listed under ingestion. Slight irritation.
Symptoms/injuries after eye contact	: Redness of the eye tissue. Lacrimation.
Symptoms/injuries after ingestion	: Nausea. Vomiting. AFTER ABSORPTION OF HIGH QUANTITIES: FOLLOWING SYMPTOMS MAY APPEAR LATER: Change in the haemogramme/blood composition. Headache. Feeling of weakness. Abdominal pain. Muscular pain. Central nervous system depression. Dizziness. Mental confusion. Drunkenness. Coordination disorders. Disturbed motor response. Disturbances of consciousness. Visual disturbances. Blindness. Respiratory difficulties. Cramps/uncontrolled muscular contractions.
Chronic symptoms	: ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Red skin. Dry skin. Skin rash/inflammation. Headache. Disturbed tactile sensibility. Visual disturbances. Sleeplessness. Gastrointestinal complaints. Cardiac and blood circulation effects.

SECTION 12: Ecological information		
12.1. Toxicity		
Ecology - general	: Classification concerning the environment: not applicable.	
Ecology - air	: TA-Luft Klasse 5.2.5/I.	
Ecology - water	 Not harmful to fishes (LC50(96h) >1000 mg/l). Not harmful to invertebrates (Daphnia) (EC50 (48h) > 1000 mg/l). Not harmful to algae (EC50 (72h) >1000 mg/l). Slightly harmful to bacteria (EC50: 100 - 1000 mg/l). Inhibition of activated sludge. 	
Methanol (67-56-1)		

15400 mg/l (96 h; Lepomis macrochirus; Lethal)	
> 10000 mg/l (48 h; Daphnia magna; Lethal)	
10800 mg/l 96 h; Salmo gairdneri (Oncorhynchus mykiss)	
24500 mg/l (48 h; Daphnia magna)	
6600 mg/l (16 h; Pseudomonas putida)	
530 mg/l (192 h; Microcystis aeruginosa)	
8000 mg/l (168 h; Scenedesmus quadricauda)	

Safety Data Sheet

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

12.2. Persistence and degradability		
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)	0.8 % ThOD	
12.3. Bioaccumulative potential		
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).	
12.4. Mobility in soil		
Methanol (67-56-1)		
Surface tension	0.023 N/m (20 °C)	
12.5. Other adverse effects		

No additional information available

SECTION 13: Disposal consider	ations
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. Incinerate under surveillance with energy recovery. Do not discharge into drains or the environment. Obtain the consent of pollution control authorities before discharging to wastewater treatment plants.
Additional information	: LWCA (the Netherlands): KGA category 06. Hazardous waste according to Directive 2008/98/EC.
SECTION 14: Transport informa	ition
In accordance with DOT	
Transport document description	: UN1230 Methanol, 3, II
UN-No.(DOT)	: 1230

UN-No.(DOT): 1230DOT NA no.: UN1230DOT Proper Shipping Name: MethanolDepartment of Transportation (DOT) Hazard
Classes: 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120Hazard labels (DOT): 3 - Flammable liquid

DOT Symbols Packing group (DOT) : D - Proper shipping name for domestic use only, or to and from Canada

: II - Medium Danger

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

DOT Special Provisions (49 CFR 172.102)	 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. T7 - 4 178.274(d)(2) Normal
DOT Packaging Exceptions (49 CFR 173.xxx)	: 150
DOT Packaging Non Bulk (49 CFR 173.xxx)	: 202
DOT Packaging Bulk (49 CFR 173.xxx)	: 242
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	
DOT Quantity Limitations Cargo aircraft only (49 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.
DOT Vessel Stowage Other	: 40 - Stow "clear of living quarters"
Additional information	
Other information	: No supplementary information available.
State during transport (ADR-RID)	: as liquid.
ADR	
Transport document description	: UN 1230 Methanol, 3 (6.1), II, (D/E)
Packing group (ADR)	: II
Class (ADR)	: 3 - Flammable liquid
Hazard identification number (Kemler No.)	: 336
Classification code (ADR)	: FT1
Danger labels (ADR)	: 3 - Flammable liquids 6.1 - Toxic substances
Orange plates	336 1230
Tunnel restriction code	: D/E
Transport by sea	
UN-No. (IMDG)	: 1230
Class (IMDG)	: 3 - Flammable liquids
Subsidiary risk (IMDG)	: 6.1
EmS-No. (1)	: F-E
MFAG-No	: 19
EmS-No. (2)	: S-D
Air transport	
UN-No.(IATA)	: 1230
Class (IATA)	: 3 - Flammable Liquids
05/15/2014	EN (English) 8/10

Safety Data Sheet

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

Packing group (IATA)

: II - Medium Danger

Subsidiary risk (IATA)

: 6.1

SECTION 15: Regulatory information		
15.1. US Federal regulations		
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	

15.2. International regulations

CANADA

1		
	Methanol	67-56-1
	weinanon	107-30-1

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

EU-Regulations

No additional information available

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

 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

Full text of H-phrases: see section 16

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

F; R11 T; R23/24/25 T; R39/23/24/25 Full text of R-phrases: see section 16

15.2.2. National regulations

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

15.3. US State regulations	
Methanol(67-56-1)	
U.S California - Proposition 65 - Developmental Toxicity	Yes
No significance risk level (NSRL)	23000 µg/day

SECTION 16: Other information

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

Safety Data Sheet

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

Acute Tox. 3 (Oral)	Acute toxicity (oral), Category 3
Flam. Liq. 2	Flammable liquids, Category 2
STOT SE 1	Specific target organ toxicity — single exposure, Category 1
H225	Highly flammable liquid and vapour
H301	Toxic if swallowed
H311	Toxic in contact with skin
H331	Toxic if inhaled
H370	Causes damage to organs

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
NFPA reactivity	 O - 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	: H

SDS US ValTech

Information in this SDS is from available published sources and is believed to be accurate. No warranty, express or implied, is made and LabChem Inc assumes no liability resulting from the use of this SDS. The user must determine suitability of this information for his application.