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

1.1 Product identifiers

Product name : Methanol InfinityLab gradient grade for LCMS
Product Number : 5191-5111, 5191-5111-001
CAS-No. : 67-56-1

1.2 Other means of identification

No data available

1.3 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Reagents and Standards for Analytical Chemical Laboratory Use

1.4 Details of the supplier of the safety data sheet

Manufactured by : EMD Millipore Corporation
400 Summit Dr,
Burlington MA 01803 USA
An affiliate of Merck KGaA, Darmstadt, Germany

Company : Agilent Technologies Australia Pty Ltd
679 Springvale Road
Mulgrave
Victoria 3170, Australia

Telephone : +61 1800 802 402
E-mail address : pdl-msds_author@agilent.com

1.5 Emergency telephone

Emergency Phone # : +(61)-290372994 CHEMTREC

SECTION 2: Hazards identification

2.1 GHS Classification

Flammable liquids (Category 2), H225
Acute toxicity, Oral (Category 3), H301
Acute toxicity, Inhalation (Category 3), H331
Acute toxicity, Dermal (Category 3), H311
Specific target organ toxicity - single exposure (Category 1), Eyes, Central nervous system, H370

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 GHS Label elements, including precautionary statements

Pictogram



Signal Word	Danger
Hazard Statements	
H225	Highly flammable liquid and vapor.
H301 + H311 + H331	Toxic if swallowed, in contact with skin or if inhaled.
H370	Causes damage to organs (Eyes, Central nervous system).
Precautionary Statements	
Prevention	
P210	Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.
P233	Keep container tightly closed.
P260	Do not breathe mist or vapors.
P264	Wash skin thoroughly after handling.
P280	Wear protective gloves/ eye protection/ face protection.
Response	
P301 + P310 + P330	IF SWALLOWED: Immediately call a POISON CENTER/ doctor. Rinse mouth.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P308 + P311	IF exposed or concerned: Call a POISON CENTER/ doctor.
P370 + P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
Storage	
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.

2.3 Other hazards - none

SECTION 3: Composition/information on ingredients

Substance / Mixture : Substance

3.1 Substances

Formula : CH₄O
Molecular weight : 32.04 g/mol
CAS-No. : 67-56-1
EC-No. : 200-659-6
Index-No. : 603-001-00-X

Hazardous ingredients

Component	Classification	Concentration
Methanol	Flam. Liq. 2; Acute Tox. 3; STOT SE 1; H225, H301, H331, H311, H370 Concentration limits: >= 10 %: STOT SE 1, H370; 3 - < 10 %: STOT SE 2, H371;	<= 100 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures**4.1 Description of first-aid measures**

No data available

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: Firefighting measures**5.1 Extinguishing media**

No data available

5.2 Special hazards arising from the substance or mixture

Carbon oxides

5.3 Advice for firefighters

No data available

5.4 Further information

No data available

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures**

For personal protection see section 8.

6.2 Environmental precautions

No data available

6.3 Methods and materials for containment and cleaning up

No data available

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage**7.1 Precautions for safe handling**

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

No data available

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.3 no other specific uses are stipulated.

SECTION 8: Exposure controls/personal protection**8.1 Control parameters**

Ingredients with workplace control parameters

Component	CAS-No.	Value	Control parameters	Basis
Methanol	67-56-1	TWA	200 ppm 262 mg/m ³	Australia. Workplace Exposure Standards for Airborne Contaminants.
	Remarks	Skin absorption		
		STEL	250 ppm 328 mg/m ³	Australia. Workplace Exposure Standards for Airborne Contaminants.
		Skin absorption		

8.2 Exposure controls

Personal protective equipment

Skin protection

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Full contact

Material: butyl-rubber

Minimum layer thickness: 0.7 mm

Break through time: 480 min

Material tested: Butoject® (KCL 898)

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Splash contact

Material: Viton®

Minimum layer thickness: 0.7 mm

Break through time: 120 min

Material tested: Vitoject® (KCL 890 / Aldrich Z677698, Size M)

Control of environmental exposure

Prevent product from entering drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

- | | |
|--|----------------------------------|
| a) Physical state | liquid |
| b) Color | colorless |
| c) Odor | characteristic |
| d) Melting point/freezing point | Melting point: -97.8 °C - (ECHA) |
| e) Initial boiling point and boiling range | 64.7 °C at 1,013 hPa - (ECHA) |
| f) Flammability (solid, | No data available |

	gas)	
g)	Upper/lower flammability or explosive limits	Upper explosion limit: 44 %(V) Lower explosion limit: 5.5 %(V)
h)	Flash point	9.7 °C - closed cup - Regulation (EC) No. 440/2008, Annex, A.9
i)	Autoignition temperature	455.0 °C at 1,013 hPa - DIN 51794
j)	Decomposition temperature	Distillable in an undecomposed state at normal pressure.
k)	pH	No data available
l)	Viscosity	Viscosity, kinematic: 0.54 - 0.59 mm ² /s at 20 °C Viscosity, dynamic: > 0.544 - < 0.59 mPa.s at 25 °C
m)	Water solubility	1,000 g/l at 20 °C - completely miscible
n)	Partition coefficient: n-octanol/water	log Pow: -0.77 at 25 °C - (HSDB), Bioaccumulation is not expected.
o)	Vapor pressure	169.27 hPa at 25 °C
p)	Density	0.79 g/cm ³ at 20 °C
	Relative density	0.79 - 0.8 at 20 °C
q)	Relative vapor density	1.11
r)	Particle characteristics	No data available
s)	Explosive properties	No data available
t)	Oxidizing properties	none

9.2 Other safety information

Minimum ignition energy	0.14 mJ
Conductivity	< 1 µS/cm
Relative vapor density	1.11

SECTION 10: Stability and reactivity

10.1 Reactivity

No data available

10.2 Chemical stability

No data available

10.3 Possibility of hazardous reactions

Risk of explosion with:
Oxidizing agents
perchloric acid
perchlorates
salts of oxyhalogenic acids

chromium(VI) oxide
halogen oxides
nitrogen oxides
nonmetallic oxides
chromosulfuric acid
chlorates
hydrides
zinc diethyl
halogens
powdered magnesium
hydrogen peroxide
Nitric acid
sulfuric acid
permanganic acid
sodium hypochlorite
Exothermic reaction with:
acid halides
Acid anhydrides
Reducing agents
acids
Bromine
Chlorine
Chloroform
magnesium
tetrachloromethane
Risk of ignition or formation of inflammable gases or vapours with:
Fluorine
Oxides of phosphorus
Raney-nickel
Generates dangerous gases or fumes in contact with:
Alkaline earth metals
Alkali metals

10.4 Conditions to avoid

No data available

10.5 Incompatible materials

No data available

10.6 Hazardous decomposition products

In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Acute toxicity estimate Oral - 100.1 mg/kg

(Expert judgment)

Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Symptoms: Nausea, Vomiting

Acute toxicity estimate Inhalation - 4 h - 3.1 mg/l - vapor

(Expert judgment)

Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Symptoms: Irritation symptoms in the respiratory tract.

Acute toxicity estimate Dermal - 300.1 mg/kg

(Expert judgment)

Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Skin corrosion/irritation

Skin - Rabbit

Result: No skin irritation

Remarks: (ECHA)

Remarks: Drying-out effect resulting in rough and chapped skin.

Serious eye damage/eye irritation

Eyes - Rabbit

Result: No eye irritation

Remarks: (ECHA)

Respiratory or skin sensitization

Sensitisation test: - Guinea pig

Result: negative

(OECD Test Guideline 406)

Germ cell mutagenicity

Based on available data the classification criteria are not met.

Test Type: Ames test

Test system: Salmonella typhimurium

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: negative

Test Type: In vitro mammalian cell gene mutation test

Test system: Chinese hamster lung cells

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 476

Result: negative

Test Type: Micronucleus test

Species: Mouse

Cell type: Bone marrow

Application Route: Intraperitoneal injection

Method: OECD Test Guideline 474

Result: negative

Carcinogenicity

Did not show carcinogenic effects in animal experiments.

Reproductive toxicity

Based on available data the classification criteria are not met.

Specific target organ toxicity - single exposure

Causes damage to organs. - Eyes, Central nervous system

Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

11.2 Additional Information

Acute effects:, Headache, Dizziness, Drowsiness, narcosis, Blindness, Impairment of vision, irritant effects, Nausea, Vomiting, agitation, spasms, inebriation, Coma
Drying-out effect resulting in rough and chapped skin.
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Systemic effects:

acidosis
drop in blood pressure
agitation, spasms
inebriation
Dizziness
Drowsiness
Headache
Impairment of vision
Blindness
narcosis
Coma

Symptoms may be delayed.

Damage to:

Liver
Kidney
Cardiac
Irreversible damage of the optical nerve.

Other dangerous properties can not be excluded.

This substance should be handled with particular care.

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish	flow-through test LC50 - <i>Lepomis macrochirus</i> (Bluegill) - 15,400.0 mg/l - 96 h (US-EPA)
Toxicity to daphnia and other aquatic invertebrates	semi-static test EC50 - <i>Daphnia magna</i> (Water flea) - 18,260 mg/l - 96 h (OECD Test Guideline 202)
Toxicity to algae	static test ErC50 - <i>Pseudokirchneriella subcapitata</i> (green algae) - ca. 22,000.0 mg/l - 96 h (OECD Test Guideline 201)
Toxicity to bacteria	static test IC50 - activated sludge - > 1,000 mg/l - 3 h (OECD Test Guideline 209)
Toxicity to fish(Chronic toxicity)	NOEC - <i>Oryzias latipes</i> (Orange-red killifish) - 7,900 mg/l - 200 h Remarks: (External MSDS)

12.2 Persistence and degradability

Biodegradability	Result: 99 % - Readily biodegradable. (OECD Test Guideline 301D)
Biochemical Oxygen Demand (BOD)	600 - 1,120 mg/g Remarks: (IUCLID)
Chemical Oxygen Demand (COD)	1,420 mg/g Remarks: (IUCLID)
Theoretical oxygen demand	1,500 mg/g Remarks: (Lit.)
Ratio BOD/ThBOD	76 % Remarks: Closed Bottle test(IUCLID)

12.3 Bioaccumulative potential

Bioaccumulation	Cyprinus carpio (Carp) - 72 d at 20 °C - 5 mg/l(Methanol)
	Bioconcentration factor (BCF): 1.0

12.4 Mobility in soil

Will not adsorb on soil.

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Endocrine disrupting properties

No data available

12.7 Other adverse effects

Additional ecological information	Avoid release to the environment.
Stability in water	at 19 °C 83 - 91 % - 72 h Remarks: Hydrolyzes on contact with water. Hydrolyzes readily. - 2.2 yr Remarks: reaction with hydroxyl radicals(IUCLID)

SECTION 13: Disposal considerations

13.1 Waste treatment methods

No data available

SECTION 14: Transport information

14.1 UN number

ADR/RID: 1230 IMDG: 1230 IATA-DGR: 1230

14.2 UN proper shipping name

ADR/RID: METHANOL
IMDG: METHANOL
IATA-DGR: Methanol

