SAFETY DATA SHEET

according to Regulation (EC) No 1907/2006 (REACH) as amended

Methanol

Creation date	02nd July 2020
Revision date	Version 1.0

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

1.1. Product identifier — Methanol

Substance / mixture	substance
Number	603-001-00-X
Chemical name	methanol
CAS number	67-56-1
Index number	603-001-00-X
EC (EINECS) number	200-659-6
Registration number	01-2119433307-44-XXXX
Other substance name	Methyl alcohol

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

Substance's intended use	Laboratory chemicals, Manufacture of substances
Substance uses advised against	The product should not be used in ways other then those referred in Section 1.

1.3. Details of the supplier of the safety data sheet

Supplier

Name or trade name	Protolab Stanisław Staniuk
Address	Owocowa 4-8, Słupsk, 76-200 Poland
Phone	+48 794 341 322
E-mail	protolab@protolab.pl

Competent person responsible for the safety data sheet

Name	Protolab Stanisław Staniuk
E-mail	protolab@protolab.pl

1.4. Emergency telephone number

112

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification of the substance in accordance with Regulation (EC) No 1272/2008

The substance is classified as dangerous.

Flam. Liq. 2, H225
Acute Tox. 3, H301+H311+H331
STOT SE 1, H370

Full text of all classifications and hazard statements is given in the section 16.

Most serious adverse physico-chemical effects

Highly flammable liquid and vapour.

Most serious adverse effects on human health and the environment

Causes damage to organs. Toxic if swallowed, in contact with skin or if inhaled.

2.2. Label elements

Hazard pictogram

Signal word

Danger

Dangerous substance

methanol
(Index: 603-001-00-X; CAS: 67-56-1)

Hazard statements

H225	Highly flammable liquid and vapour.
H370	Causes damage to organs.
H301+H311+H331	Toxic if swallowed, in contact with skin or if inhaled.

Precautionary statements

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P280	Wear protective gloves/protective clothing.
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P302+P352	IF ON SKIN: Wash with plenty of water.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P311	Call a POISON CENTER/doctor.
P312	Call a POISON CENTER/doctor if you feel unwell.
P330	Rinse mouth.

2.3. Other hazards

Substance does not meet the criteria for PBT or vPvB in accordance with Annex XIII of Regulation (EC) No. 1907/2006 (REACH) as amended.

SECTION 3: Composition/information on ingredients

3.1. Substances

Chemical characterization

The substance specified below.

Identification numbers	Substance name	Content in % weight	Classification according to Regulation (EC) No 1272/2008	Note
	substance main component			
Index: 603-001-00-X CAS: 67-56-1 EC: 200-659-6	methanol	>99	Flam. Liq. 2, H225 Acute Tox. 3, H301+H311+H331 STOT SE 1, H370 Specific concentration limit: STOT SE 1, H370: C ≥ 10 % STOT SE 2, H371: 3 % ≤ C < 10 %	1, 2

Notes

1 Substance for which exposure limits of Community for working environment exist.

2 The use of the substance is restricted by Annex XVII of REACH Regulation

Full text of all classifications and hazard statements is given in the section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

Take care of your own safety. If any health problems are manifested or if in doubt, inform a doctor and show him information from this safety data sheet. If unconscious, put the person in the stabilized (recovery) position on his side with his head slightly bent backwards and make sure that airways are free; never induce vomiting. If the person vomits by himself, make sure that the vomit is not inhaled. In life threatening conditions first of all provide resuscitation of the affected person and ensure medical assistance. Respiratory arrest - provide artificial respiration immediately. Cardiac arrest - provide indirect cardiac massage immediately.

If inhaled

Take care of your own safety, do not let the affected person walk! Terminate the exposure immediately; move the affected person to fresh air. Beware of the contaminated clothes. Depending on the situation, call the medical rescue service and ensure medical treatment considering the frequent need of further observation for at least 24 hours.

If on skin

Remove contaminated clothes. Take off any rings, watches, bracelets before or during washing if worn in the contaminated areas of the skin. Depending on the situation, call the medical rescue service and always ensure medical treatment. Rinse contaminated areas with a flow of water, lukewarm at best, for 10-30 minutes; do not use any brush, soap or neutralizers. Rinse skin with water or shower.

If in eyes

Rinse eyes immediately with a flow of running water, open the eyelids (also using force if needed); remove contact lenses immediately if worn by the affected person. No neutralization should be performed in any case! Rinsing should be continued for 10-30 minutes from the inner to the outer eye corner to make sure that the other eye is not involved. Depending on the situation, call medical rescue service or ensure medical treatment as promptly as possible. Everyone must be referred for treatment even if affected only a little.

If swallowed

After swallowing: fresh air. Make victim drink ethanol (e.g. 1 drinking glass of a 40% alcoholic beverage). Call a doctor immediately (mention methanol ingestion). Only in exceptional cases, if no medical care is available within one hour, induce vomiting (only in fully conscious persons) and make victim drink ethanol again (approx. 0.3 ml of a 40% alcoholic beverage/kg body weight/hour).

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

If inhaled

Cough, headache.

If on skin

not available

If in eyes

Not expected.

If swallowed

Irritation, nausea.

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

Symptomatic treatment.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Foam Carbon dioxide (CO2) Dry powder Water

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

5.2. Special hazards arising from the substance or mixture

In the event of fire, carbon monoxide, carbon dioxide and other toxic gases may arise. Inhalation of hazardous degradation (pyrolysis) products may cause serious health damage.

5.3. Advice for firefighters

Self-Contained Breathing Apparatus (SCBA) with a chemical protection suit only where personal (close) contact is likely. Use a self-contained breathing apparatus and full-body protective clothing. Closed containers with the product near the fire should be cooled with water. Do not allow run-off of contaminated fire extinguishing material to enter drains or surface and ground water.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Provide sufficient ventilation. The substance is flammable. Remove all ignition sources. Use personal protective equipment for work. Follow the instructions in the Sections 7 and 8. Do not inhale aerosols. Prevent contact with skin and eyes.

6.2. Environmental precautions

Prevent contamination of the soil and entering surface or ground water.

6.3. Methods and material for containment and cleaning up

Spilled product should be covered with suitable (non-flammable) absorbing material (sand, diatomaceous earth, earth and other suitable absorption materials); to be contained in well closed containers and removed as per the Section 13. In the event of leakage of the substantial amount of the product, inform fire brigade and other competent bodies. After removal of the product, wash the contaminated site with plenty of water. Do not use solvents.

6.4. Reference to other sections

See the Section 7, 8 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Prevent formation of gases and vapours in flammable or explosive concentrations and concentrations exceeding the occupational exposure limits. The product should be used only in the areas where it is not in contact with open fire and other ignition sources. Use non-sparking tools. Use of antistatic clothes and footwear is recommended. Do not inhale aerosols. Prevent contact with skin and eyes. No smoking. Use non-sparking tools. Do not eat, drink or smoke when using this product. Wash hands and exposed parts of the body thoroughly after handling. Use only outdoors or in a well-ventilated area. Use personal protective equipment as per Section 8. Observe valid legal regulations on safety and health protection. Ground and bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Take action to prevent static discharges.

7.2. Conditions for safe storage, including any incompatibilities

Store in tightly closed containers in cold, dry and well ventilated areas designated for this purpose. Do not expose to sunlight. Store locked up. Keep container tightly closed. Keep cool.

The specific requirements or rules relating to the substance/mixture

Solvent vapours are heavier than air and accumulate especially near the floor where they may form an explosive mixture with the air.

7.3. Specific end use(s)

not available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

DNEL

Methanol

Workers / consumers	Route of exposure	Value	Effect	Determining method
Workers	Dermal	40 mg/kg bw/day	Systemic chronic effects	
Consumers	Dermal	8 mg/kg bw/day	Systemic chronic effects	
Consumers	Oral	8 mg/kg bw/day	Systemic chronic effects	
Workers	Dermal	40 mg/kg bw/day	Systemic acute effects	
Workers	Dermal	8 mg/kg bw/day	Systemic acute effects	
Consumers	Oral	8 mg/kg bw/day	Systemic acute effects	
Workers	Inhalation	260 mg/cm²	Local acute effects	
Workers	Inhalation	260 mg/cm²	Systemic acute effects	
Workers	Inhalation	260 mg/cm²	Systemic chronic effects	
Workers	Inhalation	260 mg/cm²	Local chronic effects	
Consumers	Inhalation	50 mg/cm²	Local acute effects	
Consumers	Inhalation	50 mg/cm²	Systemic acute effects	
Consumers	Inhalation	50 mg/cm²	Local chronic effects	
Consumers	Inhalation	50 mg/cm²	Systemic chronic effects	

PNEC

Methanol

Route of exposure	Value	Determining method
Soil (agricultural)	23.5 mg/kg	
Seawater	15.4 mg/l	
Drinking water	154 mg/l	
Freshwater sediment	570.4 mg/kg	

Methanol

Route of exposure	Value	Determining method
Microorganisms in wastewater treatment plants	100 mg/kg	

8.2. Exposure controls

Follow the usual measures intended for health protection at work and especially for good ventilation. This can be achieved only by local suction or efficient general ventilation. Do not eat, drink and smoke during work. Wash your hands thoroughly with water and soap after work and before breaks for a meal and rest.

Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type AXBEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Thermal hazard

Data not available.

Environmental exposure controls

Observe usual measures for protection of the environment, see Section 6.2.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	liquid
Physical state	liquid at 20°C
color	colourless
Odour	characteristic
Odour threshold	data not available
pH	data not available
Melting point/freezing point	-98 °C
Initial boiling point and boiling range	64.7 °C
Flash point	9.7 °C (directive 92/69/EEC)
Evaporation rate	5,3
Flammability (solid, gas)	Highly flammable liquid and vapour.
Upper/lower flammability or explosive limits	
flammability limits	data not available
explosive limits	V
bottom	5.5 %
upper	44 %
Vapour pressure	128 hPa at 20°C
Vapour density	1,11
Relative density	data not available
Solubility(ies)	
solubility in water	completely soluble
solubility in fats	data not available
Partition coefficient: n-octanol/water	log PoW: -0.77
Auto-ignition temperature	455 °C
Decomposition temperature	data not available
Viscosity	data not available
Explosive properties	data not available
Oxidising properties	data not available

9.2. Other information

Density	0.791 g/cm³ at 25°C
ignition temperature	data not available

SECTION 10: Stability and reactivity

10.1. Reactivity
The substance is highly flammable.

10.2. Chemical stability
The product is stable under normal conditions.

10.3. Possibility of hazardous reactions
Unknown.

10.4. Conditions to avoid
Heat, flames and sparks.

10.5. Incompatible materials
Magnesium, zinc alloys, various plastics, strong oxidizing agents

10.6. Hazardous decomposition products
Not developed under normal uses. Dangerous outcomes such as carbon monoxide and carbon dioxide are formed at high temperature and in fire.

SECTION 11: Toxicological information

11.1. Information on toxicological effects
Inhalation of solvent vapors above values exceeding exposure limits for working environment may result in acute inhalation poisoning, depending on the level of concentration and exposure time. No toxicological data is available for the substance.

Acute toxicity
Causes damage to organs. Toxic if swallowed, in contact with skin or if inhaled.

Methanol

Route of exposure	Parameter	Value	Time of exposure	Species	Sex
Inhalation	LC_{50}	131.25 mg/l	4 hour	Rat (Rattus norvegicus)	F/M
Oral	LD_{50}	1187-2769 mg/kg		Rat (Rattus norvegicus)	
Dermal	LD_{50}	17100 mg/kg		Rabbit	

Skin corrosion/irritation
Based on available data the classification criteria are not met.

Methanol

Route of exposure	Result	Time of exposure	Species
Dermal	No effect, Not irritating		Rabbit

Serious eye damage/irritation
Based on available data the classification criteria are not met.

Respiratory or skin sensitisation
Based on available data the classification criteria are not met.

Methanol

Route of exposure	Result	Method	Time of exposure	Species	Sex
Inhalation	Negative	OECD 406		Guinea-pig (Cavia aperea f. porcellus)	

Germ cell mutagenicity
Based on available data the classification criteria are not met.

Methanol

Result	Method	Time of exposure	Specific target organ	Species	Sex	Source
Negative			Lungs	Chinese hamster (Cricetulus barabensis)		Test Amesa
Negative	OECD 474			Bacteria (Salmonella typhimurium)		

Carcinogenicity
No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity
Based on available data the classification criteria are not met.

Toxicity for specific target organ - single exposure
Causes damage to organs.-Eyes
Acute oral toxicity-Nausea, Vomiting
Acute inhalation toxicity - Irritation symptoms in the respiratory tract.

Toxicity for specific target organ - repeated exposure
Based on available data the classification criteria are not met.

Aspiration hazard
Based on available data the classification criteria are not met.

SECTION 12: Ecological information

12.1. Toxicity

Acute toxicity

Methanol

Parameter	Method	Value	Time of exposure	Species	Environment	Source
LC_{50}		15400 mg/l	96 hour	Fishes (Lepomis macrochirus)		US-EPA
EC_{50}	OECD 202	18260 mg/l	96 hour	Daphnia (Daphnia magna)		
ErC_{50}	OECD 201	22000 mg/l	96 hour	Algae (Selenastrum capricornutum)		
IC_{50}	OECD 209	>1000 mg/l	3 hour	Bacteria (Salmonella typhimurium)	Activated sludge	

12.2. Persistence and degradability

Biodegradability

Methanol

Parameter	Method	Value	Time of exposure	Environment	Result
	OECD 301D	99 %			Easily biodegradable

Biodegradation BZT5: 0,6 – 1,1 g O2/g; ChZT: 1,42 gO2/g..

12.3. Bioaccumulative potential

Methanol

Parameter	Value	Time of exposure	Species	Environment	Surrounding temperature [°C]
	5 mg/l	72 day	Fishes (Cyprinus carpio)		20°C

Data not available.

12.4. Mobility in soil

Data not available.

12.5. Results of PBT and vPvB assessment

Product does not contain any substance meeting the criteria for PBT or vPvB in accordance with the Annex XIII of Regulation (EC) No 1907/2006 (REACH) as amended.

12.6. Other adverse effects

Data not available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Proceed in accordance with valid regulations on waste disposal. Any unused product and contaminated packaging should be put in labelled containers for waste collection and submitted for disposal to a person authorised for waste removal (a specialized company) that is entitled for such activity. Do not empty unused product in drainage systems. The product must not be disposed of with municipal waste. Empty containers may be used at waste incinerators to produce energy or deposited in a dump with appropriate classification. Perfectly cleaned containers can be submitted for recycling.

Waste management legislation

Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste, as amended. Decision 2000/532/EC establishing a list of wastes, as amended.

Waste type code

07 01 04 other organic solvents, washing liquids and mother liquors *

(*) - Hazardous waste according to Directive 2008/98/EC on hazardous waste

SECTION 14: Transport information

14.1. UN number

UN 1230

14.2. UN proper shipping name

METHANOL

14.3. Transport hazard class(es)

3 Flammable liquids

14.4. Packing group

II - substances presenting medium danger

14.5. Environmental hazards

ADR/RID: no
IMDG Marine pollutant: no
IATA: no

14.6. Special precautions for user

Reference in the Sections 4 to 8.

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

not available

Additional information

Hazard identification No.	336
UN number	1230
Classification code	FT1
Safety signs	3+6.1

Air transport - ICAO/IATA

Packaging instructions passenger	352
Cargo packaging instructions	364

Marine transport - IMDG

EmS (emergency plan)	F-E, S-D

SECTION 15: Regulatory information

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

Regulation (EC) No. 1907/2006 of the European Parliament and of the Council of 18th December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing the European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No. 793/93 and Commission Regulation (EC) No. 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, as amended. Regulation (EC) No. 1272/2008 of the European Parliament and of the Council of 16th December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No. 1907/2006, as amended.

Restrictions pursuant to Annex XVII of Regulation (EC) No. 1907/2006 (REACH), as amended

methanol

Restriction	Conditions of restriction
69	Shall not be placed on the market to the general public after 9 May 2019 in windscreen washing or defrosting fluids, in a concentration equal to or greater than 0,6 % by weight.

15.2. Chemical safety assessment

not available

SECTION 16: Other information

A list of standard risk phrases used in the safety data sheet

H225	Highly flammable liquid and vapour.
H370	Causes damage to organs.
H371	May cause damage to organs.
H301+H311+H331	Toxic if swallowed, in contact with skin or if inhaled.

Guidelines for safe handling used in the safety data sheet

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P280	Wear protective gloves/protective clothing.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P330	Rinse mouth.
P302+P352	IF ON SKIN: Wash with plenty of water.
P312	Call a POISON CENTER/doctor if you feel unwell.
P311	Call a POISON CENTER/doctor.

Other important information about human health protection

The product must not be - unless specifically approved by the manufacturer/importer - used for purposes other than as per the Section 1. The user is responsible for adherence to all related health protection regulations.

Key to abbreviations and acronyms used in the safety data sheet

ADR	European agreement concerning the international carriage of dangerous goods by road
BCF	Bioconcentration Factor
CAS	Chemical Abstracts Service
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substance and mixtures
DNEL	Derived no-effect level
EC	Identification code for each substance listed in EINECS
EC_{50}	Concentration of a substance when it is affected 50% of the population
EINECS	European Inventory of Existing Commercial Chemical Substances
EmS	Emergency plan
EU	European Union
IATA	International Air Transport Association
IBC	International Code For The Construction And Equipment of Ships Carrying Dangerous Chemicals
IC_{50}	Concentration causing 50% blockade
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
INCI	International Nomenclature of Cosmetic Ingredients
ISO	International Organization for Standardization
IUPAC	International Union of Pure and Applied Chemistry
LC_{50}	Lethal concentration of a substance in which it can be expected death of 50% of the population
LD_{50}	Lethal dose of a substance in which it can be expected death of 50% of the population
LOAEC	Lowest observed adverse effect concentration
LOAEL	Lowest observed adverse effect level
log Kow	Octanol-water partition coefficient
MARPOL	International Convention for the Prevention of Pollution From Ships
NOAEC	No observed adverse effect concentration
NOAEL	No observed adverse effect level
NOEC	No observed effect concentration
NOEL	No observed effect level
OEL	Occupational Exposure Limits
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted no-effect concentration
ppm	Parts per million
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Agreement on the transport of dangerous goods by rail
UN	Four-figure identification number of the substance or article taken from the UN Model Regulations
UVCB	Substances of unknown or variable composition, complex reaction products or biological materials
VOC	Volatile organic compounds
vPvB	Very Persistent and very Bioaccumulative

Acute Tox.	Acute toxicity
Flam. Liq.	Flammable liquid
STOT SE	Specific target organ toxicity - single exposure

Training guidelines

Inform the personnel about the recommended ways of use, mandatory protective equipment, first aid and prohibited ways of handling the product.

Recommended restrictions of use

not available

Information about data sources used to compile the Safety Data Sheet

REGULATION (EC) No. 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL (REACH) as amended. REGULATION (EC) No. 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL as amended. Data from the manufacturer of the substance / mixture, if available - information from registration dossiers.

More information

Classification procedure - calculation method.

Statement

The safety data sheet provides information aimed at ensuring safety and health protection at work and environmental protection. The provided information corresponds to the current status of knowledge and experience and complies with valid legal regulations. The information should not be understood as guaranteeing the suitability and usability of the product for a particular application.