

ATB106 PRECIPITATION SOLUTION

Code: ATB106

Date of issue: 20/05/2021

Reviewed on: 10/05/2022

Version: 2.0

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

1.1 Product identifier

Trade name of the substance/mixture

ATB106 PRECIPITATION SOLUTION

Unique Formula Identifier

UFI: AKT2-7088-700C-D3Y9

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

Laboratory analysis CE-IVD kit

Chemicals for laboratory

Uses advised against

Only for professional users

Sectors of use

Manufacture of fine chemicals (SU9)

Scientific research and development (SU24)

Chemical Products Category (PC)

Products such as ph-regulators, flocculants, precipitants, neutralization agents (PC20)

Laboratory chemicals (PC21)

Pharmaceuticals (PC29)

Process Categories

Mixing or blending in batch processes (PROC5)

Use as laboratory reagent (PROC15)

Environmental Release Categories

Formulation into mixture (ERC2)

Use of intermediate (ERC6a)

Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) (ERC8a)

1.3 Details of the supplier of the safety data sheet

COQUA LAB S.R.L.

Corso Vittorio Emanuele II, 44

10123 - Torino- (TORINO)ITALY

Tel. 011-0161875

Responsabile SDS: info@coqualab.it

1.4 Emergency telephone number

Refer to national poison centres open 24 hours a day.

SECTION 2: Hazards identification

This MSDS is about a mixture classified as hazardous.

2.1 Classification of the substance or mixture**Classification of the substance/mixture (Regulation (EC) No 1272/2008)**

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

2.2 Label elements**Label elements: pictogram, signal Word code(s) (Regulation (EC) No 1272/2008)**

Danger

Label elements: hazard statement code(s) Regulation (EC) No 1272/2008)

H225, H301, H311, H331, H370

Label elements: supplemental

None

Label elements: precautionary statement code(s) (Regulation (EC) No 1272/2008)

P210, P241, P280, P303+P361+P353, P304+P340, P403+P233

2.3 Other hazards

Liquid matter.

Mixture highly flammable even at normal ambient temperature. Fire hazard.

The mixture is toxic by accidental ingestion. Poisoning hazard, possibly with fatal consequences. The damage is a function of the quantity ingested.

The mixture is toxic by skin contact. Poisoning hazard, possibly with fatal consequences. The damage is a function of the quantity absorbed.

The mixture is toxic by inhalation of vapours. Poisoning hazard, possibly with fatal consequences. The damage is a function of the quantity taken in.

The mixture is toxic for target organs. May cause disorders, with non fatal consequences. The effects on human health may be severe and irreversible, albeit non lethal, even after a single exposure.

Acute and chronic effects on organs and systems: clinical symptoms in target organism

For an exact identification of the organs subject to the action of the substances/mixtures contained in the product, the identification of symptoms and a proper knowledge of the severity of damages to people's health and the environment, see the information on the individual components.

methanol

CAS:67-56-1 EC:200-659-6 INDEX:603-001-00-X

Acute dose-dependent effects.

Cute: irritation, delipidization

Nervous system: depression, optical neuritis, headache, intoxication, vertigo, coma

Eyes: irritation

Prime airway: irritation

Lungs: irritation

Digestive system: if swallowed abdominal colic, vomiting

Chronic effects.

Cute: Irritation, Desquamation

Nervous system: headache, insomnia, vertigo, optical neuritis
Eyes: irritation

SECTION 3: Composition/information on ingredients

3.1 Substances

Data not applicable.

3.2 Mixtures

The mixture is made of the following hazardous substances/mixtures, dealt with in Annex VI to Regulation (EC) 1272/2008 and its subsequent amendments and additions, and classified on the basis of Annex I to the same Regulation (EC) 1272/2008 subsequent amendments and additions.

methanol

CAS:67-56-1 EC:200-659-6 INDEX:603-001-00-X REACH: 01-2119433307-44
Table 3 Reg. 1272/2008: Flam. Liq. 2; H225, Acute Tox. 3; H301+H311+H331, STOT SE 1; H370
STOT SE 1; H370: C ≥ 10 %; STOT SE 2; H371: 3 % ≤ C < 10 %
Concentration: 75.00-100.00%

The complete text of the hazard statements is given in section 16 of this data sheet.

SECTION 4: First aid measures

4.1 Description of first aid measures

Routes of inhalation: immediate treatment

Remove the patient from the place of the injury
Areare the environment
Wear the planned PPE

Routes of inhalation: successive treatment

Ventilation with ambu
Administer oxygen
Place in a lateral safety position

Contact with skin: immediate treatment

Remove clothing
Wear the planned PPE

Contact with skin: successive treatment

Seek medical assistance if symptoms are observed.
Wash the skin with soap and water

Contact with skin: maneuvers or substances to avoid

Do not use solvents.

Contact with eyes: immediate treatment

Rinse with water
Wear the planned PPE

Contact with eyes: successive treatment

Seek medical assistance if symptoms are observed.
Protect with gauze soaked in sterile solution

Ingestion: immediate treatment

Administer activated carbon.

Ingestion: maneuvers or substances to avoid

Do not ever induce vomiting

Do not administer anything by mouth if the person is unconscious or has difficulties breathing.

4.2 Most important symptoms and effects, both acute and delayed

For the exact identification of organs covered by the action of the substances / mixtures that compose the product, identification of symptoms, and the proper knowledge of the severity of damage to health or the environment, it is necessary to refer to the information given to each component in section 2.3.

4.3 Indication of any immediate medical attention and special treatment needed

Useful antidote: administer 1 ml/kg ethanol

Useful urgent medical examination.

Symptoms can appear with a latency of 10-48 hours based on the ingested dose.

SECTION 5: Fire-fighting measures**5.1 Extinguishing media****General informations**

If possible, eliminate source of flammable mixture.

Remove containers from fire zone, if this can be done without risk.

Confine and collect quench water for subsequent disposal.

In a fire, keep upwind to avoid smoke, fumes, vapours.

Suitable extinguishing media

CO2 or alcohol resistant foam.

Extinguishing media which must not used for safety reasons

Water jets.

5.2 Special hazards arising from the substance or mixture

If possible, move away the containers of the material from the fire zone or cool them, as the material may release toxic fumes if exposed to thermal radiation or directly involved.

The vapours may cause dizziness, fainting or asphyxiation.

It can develop dangerous gas-air mixtures.

5.3 Advice for firefighters

Wear:

- gas mask with self-contained respirator

- full equipment, consisting of helmet with visor and neck protection, fire-proof coat and pants with bands around arms, legs and waist.

For all matters not discussed in this paragraph, see the protection equipment recommended in section 8 of this MSDS.

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

The following guidelines are directed to the staff, properly trained, working in the units in which the substance is used normally and is intended to ensure, if possible without risk, the preliminary operations safety before moving away and waiting for the intervention of the emergency team.

Stop the leak, if this can be done without risk.

Move the people not in charge of the emergency intervention away from the spill zone.
Always keep upwind, if possible.
Eliminate all possible triggering agents.

For emergency responders

The following indications are intended for expert personnel forming part of the specifically-formed emergency response team and are in addition to those provided at the point referring to non-emergency personnel; the indications regarding environmental precautions and containment and recovery procedures refer to the same personnel.

As a precaution, wear the special fire equipment described in section 5.

All the devices used during the operation must be connected to the ground.

Use antistatic clothing and equipment during the operations.

6.2 Environmental precautions

Prevent spills from reaching closed sewer systems and do not collect in closed containers to reduce the risk of confined explosions.

Vapours can be diluted with nebulised water.

6.3 Methods and material for containment and cleaning up

Cover the losses with inert absorbent material (clay, sand or other non -fuel material) to reduce the development of vapors.

Wash the floor with water after collecting the spill.

Collect the spill with antispark equipment.

Place the material collected into clean and labelled containers.

If necessary, reclaim the soil.

Do not use strong oxidant based cleaning products.

6.4 Reference to other sections

For information relating to safe manipulation, see section 7.

For information relating to the protective equipment for personal use see section 8.

For information relating to disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Verify the integrity of the containers before handling operations

Handle the containers with care.

When using the material outdoors, keep upwind.

Always avoid:

- skin and eye contact
- inhaling vapours and fumes

Handle in a well ventilated environment.

Where necessary and particularly in the areas of emptying or refilling, use localised exhaust systems.

Once emptied, the containers must be transferred without delay to the collection area identified while awaiting disposal or recycling.

Do not reuse empty containers before they are subjected to industrial cleaning or reconditioning operations.

Before carrying out any type of hot work, decontaminate lines and containers.

Before transferring the material, make sure that that the receptacles contain no residues of other substances, especially incompatible ones.

Make sure that tanks, containers and equipment are connected to the ground, and wear antistatic shoes during transfer operations.

Make sure that all transport equipment and lines are connected to an equipotential bonding network or earthing system.

Do not smoke in work and storage areas.

Food and drinks must be consumed only in the specifically identified areas after removing contaminated clothing and

protective equipment and after washing the hands. Always wash hands after manipulating the substance.

7.2 Conditions for safe storage, including any incompatibilities

Keep in closed and labeled containers.

Protect the containers against damaging. Protect the container against impacts and falls.

Suitable material for containers and pipes: steel or stainless steel.

Suitable material for containers and pipelines: steel.

Suitable material for containers: glass bottles.

Provide the possibility of cooling the containers containing the product with water or other systems.

Inertize the container or fit it with fire barriers.

Ventilate the storage area to ensure that vapour leaks from the containers can be diluted.

Make sure that electrical devices installed in locations posing fire and explosion hazards conform to the applicable electrical safety regulations.

Provide a lightning protection system in premises used as deposit

Store in a well ventilated, dry and cool environment.

Store in closed, labelled containers.

Minimise all possible leak sources by means of appropriate systems and procedures.

Keep at a safe distance from all possible triggering agents.

Keep away from food, drinks and animal feed.

Avoid the build-up of electrostatic charges, especially during transfer operations.

Store at a safe distance from incompatible materials, such as: strong oxidants, reducing agents, strong mineral acids (nitric acid, sulfuric acid, perchloric acid); acetyl bromuro; Alchil aluminum salts; beryllium dihidruro; bromo, chromic acid; Potassium-terz-Butoxido; Trioxide phosphorus; 2,4,6-Triclorotriazine, 1,3,3-rifluoro-2-Metoxiciclopropene; lead perchlorate, barium perchlorate, phosphorus oxide, sodium hypochlorite, magnesium powder, aluminum, diclorometano, beryllium hidruro, acetile bromide, sulfocromic acid. It is also incompatible with strong caustic substances, aliphatic amines; acetaldehyde, chromic anhydride, chrome threeoxide; Dialchilzinco, dicloro oxide, diclorometano, oxide ethylene; isocyanates, isopropil chlorine carbonate; Metallic magnesium; Metil Azide; nitrogen dioxide; Palladio, pentafluoroguanidine, perchloril fluoride; Penta sulphide phosphorus; metallic potassium; metallic sodium.

Keep the containers separate from strong oxidants.

Make sure the tanks and equipment are connected to the ground.

Do not use PVC or Poliamidi containers.

7.3 Specific end use(s)

Recommendations on special applications must be evaluated case by case, also in relation to the composition of the commercial product containing the substance, if applicable, account duly taken of the field of activity for which a substance or mixture is intended and its technological and production cycles.

SECTION 8: Exposure controls/personal protection

No information is available on the mixture as such. For personal protection aspects, it is therefore necessary to evaluate the individual components listed in section 3 of this MSDS. The information currently available and updated is given for the components whose specific properties are known. Components for which specific data are not known are not mentioned.

8.1 Control parameters

8.1.1 Occupational Exposure Limits

For the Professional Exposure Limits specified for the substances contained in the mixture, see the information on the individual components. The information currently available and updated is given for the constituent substances listed in section 3 of this MSDS. Substances whose exposure limits are not known are not mentioned.

Occupational Exposure Limits: national limit values

Refer to national occupational exposure limits values.

Occupational Exposure Limits: CEmethanol

CAS:67-56-1 EC:200-659-6 INDEX:603-001-00-X

TWA : 200 ppm 260 mg/m³Notes: possibility of significant absorption through the skin.**DNEL**methanol

CAS:67-56-1 EC:200-659-6 INDEX:603-001-00-X

Workers - skin contact (acute systemic effects): 20 mg/kg (bw/day)

Workers - skin contact (long-term systemic effects): 20 mg/kg (bw/day)

Workers - Acute inhalation (acute local effects): 260 mg/m³Workers - Acute inhalation (acute systemic effects): 130 mg/m³Workers - Long -term inhalation (acute local effects): 130 mg/m³Workers - Long -term inhalation (acute systemic effects): 130 mg/m³**PNEC**methanol

CAS:67-56-1 EC:200-659-6 INDEX:603-001-00-X

Soil: 100 mg/kg (dw)

Sea water: 2,08 mg/l

Fresh water: 20,8 mg/l

Marine sediments: 7,7 mg/l

Fresh water sediments: 77 mg/kg

STP: 100 mg/l

Intermittent release in water: 1.540 mg/l

Occupational Exposure Limits: BEI ACGIHmethanol

CAS:67-56-1 EC:200-659-6 INDEX:603-001-00-X

Methanol in urine end shift: 15 mg/l.

Occupational Exposure Limits: TLV ACGIHmethanol

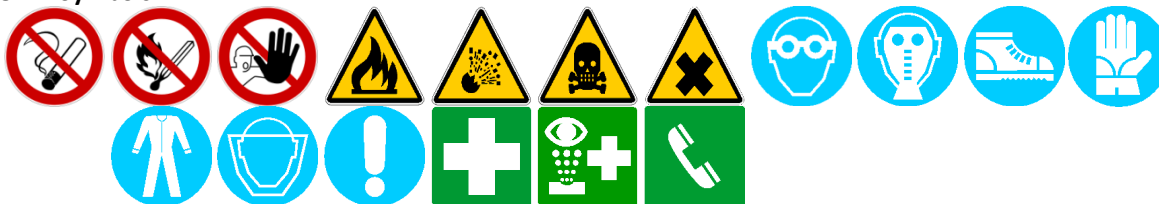
CAS:67-56-1 EC:200-659-6 INDEX:603-001-00-X

TWA : 200 ppm

STEL : 250 ppm

Notes: possibility of significant absorption through the skin.**Occupational Exposure Limits: MAK DFG**methanol

CAS:67-56-1 EC:200-659-6 INDEX:603-001-00-X

MAK : 100 ppm 130 mg/m³Notes: possibility of significant absorption through the skin.**8.1.2 Symbols**

8.2 Exposure controls

In the absence of specific indications, in selecting the appropriate PPE, whether for the skin, the eyes or the airways, consider the equipment available for the class of substances and/or mixtures concerned on the basis of the properties thereof, such as solubility in water, liposolubility, corrosivity, volatility, etc.

Consider the specific utilisation conditions of the PPE selected and employed in order to assess their durability and effectiveness during the work cycle.

Informations and General measures: general advice

Do not eat, drink or smoke in the working environment.

Duration and frequency of the exposure: 5 working days/week for 8 hours (complete shift) for 365 days/year.

Sanitary Surveillance: frequency of medical examinations

Refer to national regulations in force.

Personal protection: respiratory tract

For respiratory PPE for the substances/mixtures contained in the mixture, see the information on the individual components.

According to Reg. (EU) 2016/425

- Filter respirator.

methanol

CAS:67-56-1 EC:200-659-6 INDEX:603-001-00-X

According to Reg. (EU) 2016/425

- Ax filter: Gas and organic vapors

Supports:

- Full face mask

If the risk assessment provides for the need for assisted ventilation respiratory, use a full face mask type ABEK (EN 14387) as a support for technical measures. If the risk assessment provides for the need for assisted ventilation respiratory, use a P2 type dust filter (EN 143).

Personal protection: skin

For skin PPE for the substances/mixtures contained in the mixture, see the information on the individual components.

According to Reg. (EU) 2016/425

Protection of the higher limbs:

- Gloves resistant against chemical products.

Protection of the lower limbs:

- Safety shoes or boots resistant against chemical products.

Body protection:

- Apron or work suit resistant against chemical products.

methanol

According to Reg. (EU) 2016/425

Protection of the higher limbs:

Gloves in:

- Butyl (0.2 mm thick, permeability time > 8 hours)
- Saranex (0.1 mm thick, permeability time > 8 hours)
- VITON-NEOPRENE (0.2 mm thick, permeability time > 8 hours)
- Nitrile-PVC (permeability time > 6 hours)
- Teflon (0.5 mm thick, permeability time > 5 hours)
- CPE (0.7 mm thick, permeability time > 3 hours)
- Neoprene-rubber (0.5 mm thick, permeability time > 3 hours)
- Viton-chlorobutyle (0.4 mm thick, permeability time > 3 hours)
- Rubber (0.6 mm thick, permeability time > 1 hour)
- Neoprene (0.9 mm thick, permeability time > 1 hour)
- Nitrile (0.16 mm thick, permeability time > 1 hour)

- PE (0.1 mm thick, permeability time > 1 hour)
 - Viton (0.3 mm thick, permeability time > 1 hour)
- Protection of the lower limbs:
- Safety shoes or boots resistant against chemical products.
- Body protection:
- Apron or work suit resistant against chemical products.

Personal protection: eye / face

For eye / face PPE for the substances/mixtures contained in the mixture, see the information on the individual components.

According to Reg. (EU) 2016/425

- Safety glasses or goggles; do not use contact lenses.
- Visor or integral visor.

methanol

CAS:67-56-1 EC:200-659-6 INDEX:603-001-00-X REACH:01-2119433307-44-XXXX

Safety glasses or goggles; do not use contact lenses.

Thermal hazards

Wear heat resistant gloves in case of thermal hazards.

Environmental exposure controls

Refer to national regulations in force.

Atmospheric contaminants

Refer to national regulations in force.

Other informations**Duration and frequency of the exposition**

5 working days/week.

8 h (complete turn).

Exposure forecast - methanol (laboratory reagent)

Workers (skin): RCR 0.002

Workers (inhalation): RCR 0.051

Consumers: not relevant.

Exposure forecast - methanol (formulation or repackaging)

Workers (skin): RCR 0.068

Workers (inhalation): RCR 0.257

SECTION 9: Physical and chemical properties**9.1 Information on basic physical and chemical properties**

Physical State	Liquid
Colour	Colorless
Odour	Slightly alcoholic
Odour threshold	Data not available
Melting point/freezing point	- 97,8° C (
Boiling point/boiling range	64,7° C
Flammability	Highly flammable
Lower explosion limit	5.5
Upper explosion limit	44

Flash point	9,7° C
Auto-ignition temperature	455° C
Decomposition temperature	Data not available
pH	About 7
Kinematic viscosity	Data not applicable
Water solubility	Completely miscible
Fat or other organic solvents solubility	Miscible with common organic solvents Not very soluble in fats and oils
Partition coefficient n-octanol/water (log value)	- 0,77
Vapour pressure	12,8 kPa a 20° C 55,2 kPa a 50° C
Density and/or relative density	0,7915
Relative vapour density (air = 1)	1,11
Particle characteristics	Data not applicable

9.2 Other information

Explosive properties	Non -explosive product, the formation of explosive vapor/air mixes is possible
Oxidising properties	Date not available
Other information with regard to physical hazard classes	Date not available
Other safety characteristics	Date not available
Evaporation rate	Date not available

SECTION 10: Stability and reactivity

10.1 Reactivity

methanol

CAS:67-56-1 EC:200-659-6 INDEX:603-001-00-X

Vapors form explosive mixtures with air.

It attackc some plastics, rubbers and coatings (Pohanish, 2009).

10.2 Chemical stability

Stable in normal conditions.

Polimerizes exclusively if heated.

10.3 Possibility of hazardous reactions

In combustion it develops formaldehyde.

It can react with metal aluminum at high temperatures (Pohanish, 2009).

Concentrated peroxide hydrogen mixtures or concentrated sulfuric acid can cause explosions (Phanish, 2009).

It reacts violently (possible fire and/or explosion) with strong oxidants.

10.4 Conditions to avoid

Heating and free flames.

methanol

CAS:67-56-1 EC:200-659-6 INDEX:603-001-00-X

The agitation of the substance can generate electrostatic charges due to the low conductivity (Pohanish, 2009).

10.5 Incompatible materials

methanol

CAS:67-56-1 EC:200-659-6 INDEX:603-001-00-X

Strong oxidants, reducing agents, strong mineral acids (nitric acid, sulfuric acid, perchloric acid); acetyl bromuro; Alchil aluminum salts; beryllium dihydruro; bromo, chromic acid; Potassium-terz-Butoxido; Trioxide phosphorus; 2,4,6-

Triclorotriazine, 1,3,3-rifluoro-2-Metoxicliclopropene; lead perchlorate, barium perchlorate, phosphorus oxide, sodium hypochlorite, magnesium powder, aluminum, dicloromethane, beryllium hydruro, acetile bromide, sulfocromic acid, strong caustic substances, aliphatic amines; acetaldehyde, chromic anhydride, chrome threeoxide; Dialchilzinco, dicloro oxide, dicloromethane, oxide ethylene; isocyanates, isopropil chlorine carbonate; Metallic magnesium; Metil Azide; nitrogen dioxide; Palladio, pentafluoroguanidine, perchloril fluoride; Penta sulphide phosphorus; metallic potassium; metallic sodium.

10.6 Hazardous decomposition products

methanol

CAS:67-56-1 EC:200-659-6 INDEX:603-001-00-X

Formaldehyde. Carbon monoxide, carbon dioxide.

SECTION 11: Toxicological information

No experimental studies have been performed on the mixture as such. For toxic effects in humans, it is therefore necessary to evaluate the individual components listed in section 3 of the MSDS. The information currently available and updated is given for the components whose specific effects are known.

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

methanol

CAS:67-56-1 EC:200-659-6 INDEX:603-001-00-X

DL-50 (oral): 143 mg/kg (ATE (RTECS®))

> 1,187 mg/kg ()

DL-50 (skin): 15,800 mg/kg (rabbit)

CL-50-4 hours (inhalation): 83.9 mg/l (rat)

Corrosive to the respiratory system

The information on the corrosive and/or irritant power to the respiratory system of the components of the mixture is not available or not significant in relation to the hazardousness of the product.

The mixture appears to have no corrosive and/or irritant power to the airways.

Skin corrosion/irritation

The information on the corrosive and/or irritant power to skin of the components of the mixture is not available or not significant in relation to the hazardousness of the product.

The mixture appears to have no corrosive and/or irritant power to the skin.

Serious eye damage/irritation

The information on the corrosive and/or irritant power to eyes of the components of the mixture is not available or not significant in relation to the hazardousness of the product.

The mixture appears to have no corrosive and/or irritant power to the eyes.

Respiratory sensitisation

The information on the sensitising power to the respiratory system of the components of the mixture is not available or not significant in relation to the hazardousness of the product.

The substance has been found to have sensitising power to the respiratory system.

Skin sensitisation

The information on the sensitising power of the components of the mixture is not available or not significant in relation to the hazardousness of the product.

No sensitising power to skin has been demonstrated for this mixture.

STOT-single exposure

It is believed that the mixture has proven or potential STOT effects following single exposure.

methanol

CAS:67-56-1 EC:200-659-6 INDEX:603-001-00-X

The substance acts on the CNS where it initially causes intoxication syndrome, then more or less profound consciousness disorders accompanied sometimes by convulsions, respiratory depression and cardio-vascular collapse (INRS, 2009). Numerous clinical cases are available for the appearance of blindness in humans following oral recruitment. It is known that in humans the methanol causes lethal intoxications (mainly following ingestion) to relatively low doses: the minimum lethal dose in the absence of medical treatment is about 300-1000 mg / kg p.c. (IPCS, 1997). The classification criteria for STOT-SE Category 1 are satisfied: clear evidence in the man of a specific toxicity effect for target organs that is not covered by acute toxicity. In rats, even at high doses, no specific toxicity for target organs was observed. It is known that the rat is not sensitive to the toxicity of methanol and therefore is not considered a good model for the effects on humans.

STOT-repeated exposure

The information on the STOT-repeated exposure toxicity of the components of the mixture is not available or not significant in relation to the hazardousness of the product.
It is believed that the mixture has no proven or potential STOT effects following repeated exposure.

Carcinogenicity

Evaluations of the components of the mixture are not available or are not significant in relation to the hazardousness of the mixture.
It is believed that the mixture has no proven or potential carcinogenic effects in humans.

Germ cell mutagenicity

Evaluations of the components of the mixture are not available or are not significant in relation to the hazardousness of the product.
It is believed that the mixture has no proven or potential mutagenic effects in humans.

Reproductive toxicity

Evaluations of the components of the mixture are not available or are not significant in relation to the hazardousness of the product.
It is believed that the mixture has no proven or potential reproductive toxicity effects in humans.

Aspiration hazard

Evaluations of the components of the mixture are not available or are not significant in relation to the hazardousness of the product.

Metabolism, kinetics, mechanism of action and other informationmethanol

CAS:67-56-1 EC:200-659-6 INDEX:603-001-00-X

The substance can be absorbed by ingestion, inhalation or for cutaneous contact (INRS, 2009). It is quickly distributed in the total water of the body. The half-life is about 24 hours (INRS, 2009). Metabolism takes place in the liver (INRS, 2009). The 1st stage involves the oxidation of methanol in Formaldehyde by hepatic alcohol-dehydrogenase, enzyme that has affinity also for ethanol and butanol. The relative affinity of the dehydrogenase alcohol for ethanol and methanol is approximately 20: 1; this stage is limiting because linked to a saturation process (INRS, 2009). In the 2nd stage the formaldehyde is oxidized by the dehydrogenase aldehyde in formic acid or formate, in relation to pH (INRS, 2009). The 3rd stage, which leads to the formation of carbon dioxide, is controlled by the metabolic pathway of the compounds to a carbon atom (system under the dependence of a folic acid derivative); It is the limiting stage of biotransformation. This explains the accumulation of formate in the body in the event of a massive or repeated administration of methanol (INRS, 2009). The elimination of methanol and its metabolites takes place with exhaled air (methanol and carbon dioxide) and with urine (methanol and formate). This process is slow, in particular if compared with ethanol. In the primates the metabolic

process is about 50% slower than in rodents. The urinary concentration of methanol, well correlated with blood concentration, is a good indicator of the dissemination of the substance (INRS, 2009).

The existence of a precedent latency phase to the appearance of specific toxic effects suggests that these are not due to the substance for itself, but to its metabolites. The ocular toxicity mechanism has not yet been clarified, although it is likely to be due to the presence of formic acid and not an aldehyde formica (INRS, 2009). The accumulation of formic acid coincides with metabolic acidosis and with the toxic effects on the central nervous system (INRS, 2009).

Probable exposure routes

The specific potential risk exposure routes are inhalation, skin contact and ingestion.

11.2 Information on other hazards

Endocrine disrupting properties

This mixture contains no substances with endocrine disrupting properties.

SECTION 12: Ecological information

No experimental studies have been performed on the mixture as such. For its toxicity to the environment it is therefore necessary to evaluate the individual components listed in section 3 of the MSDS.

12.1 Toxicity

Ecotoxicity: short-term effects

Short-term aquatic toxicity studies on the substances/mixtures contained in the product as listed in section 3 of this MSDS are not known or not significant in relation to the hazardousness of the mixture.

Ecotoxicity: long-term effects

Long-term aquatic toxicity studies on the individual substances/mixtures contained in the mixture as listed in section 3 of this MSDS are not known or not significant in relation to the hazardousness of the product.

12.2 Persistence and degradability

For evaluations of persistence and degradability of the substances/mixtures contained in the product, see the information on the individual components.

12.3 Bioaccumulative potential

For evaluations of the potential bioaccumulation of the substances/mixtures contained in the product, see the information on the individual components.

The information on the potential bioaccumulation of the components of the mixture is not available or not significant in relation to the hazardousness of the product.

12.4 Mobility in soil

The information on the mobility in soil of the components of the mixture is not available or not significant in relation to the hazardousness of the product.

12.5 Results of PBT and vPvB assessment

For evaluations of the PBT and vPvB assessment of the substances/mixtures contained in the product, see the information on the individual components.

This mixture contains no substances evaluated persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB).

12.6 Endocrine disrupting properties

This mixture contains no substances with endocrine disrupting properties.

12.7 Other adverse effects

Other adverse effects of the mixture are not known.

SECTION 13: Disposal considerations**13.1 Waste treatment methods**

To be disposed of as such, pursuant to Directive 98/2008/EC and Regulation 1357/2017/UE, the material must be classified as hazardous waste.

- HP 3 "Flammable": flammable liquid waste: liquid waste having a flash point below 60 °C or waste gas oil, diesel and light heating oils having a flash point > 55 °C and ≤ 75 °C.
- HP 5 "Specific Target Organ Toxicity (STOT)/Aspiration Toxicity": waste which can cause specific target organ toxicity either from a single or repeated exposure, or which cause acute toxic effects following aspiration.
- HP 6 "Acute Toxicity": waste which can cause acute toxic effects following oral or dermal administration, or inhalation exposure.

Disposal considerations





Waste management modalities must be evaluated case by case, in relation to the composition of the waste material, in the light of the provisions of the applicable Community and national regulations. For handling and intervention procedures in case of accidental dispersion of the waste material, as a rule the indications given in paragraphs 6 and 7 apply; precautionary measures and specific actions must be evaluated in relation to the composition of the waste materials. The waste constituted ??from emptied containers must be placed in an area specifically identified for their collection while waiting to the disposal. The area must be paved and equipped with coverage in order to avoid the washing away by atmospheric precipitation.

It is not allowed the disposal through the discharge of waste water.

SECTION 14: Transport information**Classification**

The material is classified as hazardous for transport purposes.

14.1 UN number or ID number	1992
14.2 UN proper shipping name	FLAMMABLE LIQUID, TOXIC, N.O.S. (methanol)
14.3 Transport hazard class(es)	ADR/RID: 3 IMDG: 3 ICAO: 3 ADN: 3
Subsidiary risks	ADR/RID: 6.1 IMDG: 6.1 ICAO: 6.1 ADN: 6.1
14.4 Packing group	ADR/RID: II IMDG: II ICAO: II ADN: II
Hazard identification number	ADR/RID: 336
UN Special Provisions	ADR/RID: 274 IMDG: 274 ADN: 274, 802
14.5 Environmental hazards	ADR, RID e ADN: the substance is not dangerous for the environment. Codice IMDG: the substance is not a marine pollutant.
14.6 Special precautions for user	ADR/RID: limited quantities: 1 L / excepted quantities: E2 ADR: ADR: tunnel restriction code: (D/E) IMDG: limited quantitie: 1 L / excepted quantitie: E2 IMDG: EmS Codes: F-E, S-D

	<p>ICAO: limited packaging: Y341 / limited quantities: 1 L ICAO: Passengers: packing instructions: 352 / Passengers: maximum amount: 1 L ICAO: Cargo: packaging instructions: 364 / Cargo: maximum amount: 60 L</p> <p>ADN: limited quantities: 1 L / excepted quantities: E2</p>
14.7 Maritime transport in bulk according to IMO instruments	Data not available
Labels	<p>ADR/RID: </p> <p>IMDG: </p> <p>ICAO: </p> <p>ADN: </p>

SECTION 15: Regulatory information

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

The list of applicable regulations is indicative and non exhaustive. Users of the product must examine the specific regulations and the recommendations on the correct use of the product on a case-by-case basis.

- Regulation (EC) No 1907/2006 of 18 December 2006 (Registration, Evaluation, Authorisation and Restriction of Chemicals - REACH Regulation)
- Regulation (EU) 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)
- Regulation (EC) n. 1272/2008 of the European Parliament and of the Council of 16 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.
- Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives
- Regulation (EU) 1357/2014 (properties of waste which render it hazardous)
- Regulation (EC) No 648/2004 of the European Parliament and of the Council of 31 March 2004 on detergents
- The holder of this product has to check the applicability of the provisions of Directive 2012/18/UE, and subsequent modifications and integrations, and, if necessary, to observe them.

15.2 Chemical safety assessment

Consider the chemical safety assessment, taking into account in particular the chemical and physical properties, and the circumstances of use of the substance or mixture.

SECTION 16: Other Information

General and/or Various

This MSDS cancels and replaces any earlier versions.
 The information given is based on the best knowledge available to the compiler as at the date specified in the foreword.
 The information must be construed as referred solely to the product specified.

Accordingly, it may be not applicable in the case of combinations or mixtures. Users must conform to the applicable regulations and make sure the information given is up-to-date, suitable and exhaustive in relation to the product's specific intended use.

Review of the safety data sheet

Changes made in this safety data sheet, from the previous version of the same, are given below.
Complete review of the safety data sheet.

Hazard statement code(s) and supplemental hazard statement code(s): full text

The full text of the hazard statement and supplemental hazard information used in the compilation of this MSDS is given below.

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

Precautionary statement code(s): full text

The full text of the precautionary statements information used in the compilation of this MSDS is given below.

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P241	Use explosion-proof [electrical/ventilating/lighting/...] equipment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.

Abbreviations and Acronyms

ACGIH: American Conference of Governmental Industrial Hygienist.

ADN: European Agreement concerning the international carriage of dangerous goods by inland waterways.

ADR: European Agreement concerning the international carriage of dangerous goods by road.

BEI: Biological exposure limit: it indicates the relative biological agent or its metabolite established by ACGIH.

EC50: Median effective concentration: the effective concentration of substance that causes in the 50% of individuals a different effect from death (immobilization, stunting etc.).

LC0: The highest dose used that does not cause any death.

DFG: German Commission for the study of the health hazards of chemicals in the workplace.

DNEL: Derived No-Effect Level

LD50: Median dose: single dose of substance, statistically evaluated, which is expected to cause death in 50% of treated animals.

PPE: Personal protective equipment

IARC: International Agency for Research on Cancer.

IBC: International Bulk Chemical Code: International Code for Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk.

ICAO: International Civil Aviation Organisation; it refers to Annex 18 of the Convention on International Civil Aviation "Safety of air transport of dangerous goods".

IMDG: International Maritime Dangerous Goods code for transport of dangerous goods by sea.

IMO: International Maritime Organization.

Kow: Partition coefficient between n-octanol and water. It is defined as the ratio between the equilibrium concentrations of a dissolved substance in a system consisting of n-octanol and water. It is a measure of the lipophilicity of the substance.

LOAEL: Lowest Observed Adverse Effect Level

MAK: Maximum concentration of a chemical substance (as gas, vapor or particulate matter) in the workplace air which generally does not cause adverse effects on workers' health nor cause annoyance even when the person is repeatedly exposed during long periods (typically 8 hours per day, assuming an average of 40 hours of work per week).

MARPOL: Protocol on Transport in bulk according to IMO.

NOEC: No Observed Effect Concentration

NOEL: No Observed Effect Level

PNEC: Predicted no-effect concentration

RID: European Agreement concerning the international carriage of dangerous goods by rail.

CNS: Central nervous system.

STEL: Threshold Limit Value - Short Term Exposure Limit: the concentration to which it is considered that workers can be exposed continuously for 15 minutes to up to 4 times per day with an interval of 60 minutes between exposures without suffering adverse effects.

TLV: Threshold Limit Value established by ACGIH.

TWA: Threshold Limit Value - Time-Weighted Average: the concentration for a conventional 8-hour workday and a 40-hour workweek, to which it is considered that nearly all workers may be repeatedly exposed, day after day, for a working lifetime without adverse effects.

Sources of key data

The sources consulted in the compilation of this MSDS are listed below:

- HSDB Hazardous Substances Data Bank. Bethesda, MD: National Library of Medicine File on-line
- ACGIH Threshold limit values for chemical substances and physical agents and biological exposure indices (TLVs and BEIs).
- Lewis, Richard J. Sr. Wiley (2000) Sax's Dangerous Properties of Industrial Materials - Interscience Publication. Tenth Edition.
- RTECS - Registry of Toxic Effects of Chemical Substances - National Library of Medicine of Bethesda (USA) by National Institute for Occupational Safety and Health (NIOSH) file on-line
- DFG (Deutsche Forschungsgemeinschaft) List of MAK and BAT Values. Maximum Concentrations and Biological Tolerance Values at the Workplace.
- GESTIS-database on hazardous substances - Institut für Arbeitsschutz der Deutschen Gesetzlichen Unfallversicherung (IFA, Institute for Occupational Safety and Health of the German Social Accident Insurance).
- United Nations. Restructured ADR. European Agreement concerning the International Carriage of Dangerous Goods by Road.
- United Nations. European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways (ADN).
- Organisation Intergouvernementale pour les Transports Internationaux Ferroviaires (OTIF). Règlement concernant le transport international ferroviaire des marchandises dangereuses (RID).
- International Civil Aviation Organization (ICAO). Technical Instructions for the Safe Transport of Dangerous Goods by Air.
- International Maritime Organization (IMO). International Maritime Dangerous Goods Code.

Safety data sheet revised by Infochem srl, on 10 May 2022, in accordance with current Community legislation (EC Regulation 1907/2006 - REACH Regulation and s.m.i.) and compiled on the basis of information taken from the SDS of the components and provided by COQUA LAB.

