Thermo Fisher SCIENTIFIC

SAFETY DATA SHEET

Creation Date 27-Apr-2009 Revision Date 03-Jan-2021 Revision Number 5

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

 Product Description:
 Methanol

 Cat No. :
 SP/3277/17

 Synonyms
 Methyl alcohol

 CAS-No
 67-56-1

 EC-No.
 200-659-6

 Molecular Formula
 C H4 O

Reach Registration Number 01-2119433307-44

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

Recommended Use Laboratory chemicals.

Sector of use SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites

Product category PC21 - Laboratory chemicals

Process categories see SECTION 16 for a complete list of uses for which an exposure scenario is provided as

an annex

Environmental release category ERC1 - Manufacture of substances

ERC2 - Formulation of preparations (mixtures)

ERC4 - Industrial use of processing aids in processes and products, not becoming part of

articles

ERC8a - Wide dispersive indoor use of processing aids in open systems

Uses advised against SU21 - Consumer uses: Private households (= general public = consumers); PC13 - Fuels.

REACH Annex XVII Restriction - refer to SECTION 15

1.3. Details of the supplier of the safety data sheet

Company EU entity/business name

Acros Organics BVBA

Janssen Pharmaceuticalaan 3a

2440 Geel, Belgium

UK entity/business name

Fisher Scientific UK

Bishop Meadow Road, Loughborough, Leicestershire LE11 5RG, United Kingdom

E-mail address begel.sdsdesk@thermofisher.com

1.4. Emergency telephone number

Tel: 01509 231166

Chemtrec US: (800) 424-9300 Chemtrec EU: 001 (202) 483-7616

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

CLP Classification - Regulation (EC) No 1272/2008

Physical hazards

Flammable liquids Category 2 (H225)

Health hazards

Acute oral toxicity

Acute dermal toxicity

Acute Inhalation Toxicity - Vapors

Specific target organ toxicity - (single exposure)

Category 3 (H301)

Category 3 (H311)

Category 3 (H331)

Category 1 (H370)

Environmental hazards

Based on available data, the classification criteria are not met

Full text of Hazard Statements: see section 16

2.2. Label elements



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: Optic nerve, Central nervous system (CNS)

Precautionary Statements

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician

P302 + P350 - IF ON SKIN: Gently wash with plenty of soap and water

P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

P240 - Ground and bond container and receiving equipment

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking

2.3. Other hazards

Substance is not considered to be persistent, bioaccumulative and toxic (PBT). Substance is not considered to be very persistent and very bioaccumulative (vPvB).

Toxic to terrestrial vertebrates

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

| Component | CAS-No | EC-No. | Weight % | CLP Classification - Regulation (EC) No 1272/2008 |
|-----------|---------|-----------|----------|--|
| Methanol | 67-56-1 | 200-659-6 | >95 | Flam. Liq. 2 (H225) Acute Tox. 3 (H301) Acute Tox. 3 (H311) Acute Tox. 3 (H331) STOT SE 1 (H370) |

| Component | Concentration limits | M-Factor | Component notes |
|-----------|------------------------|--------------|-----------------|
| Methanol | STOT SE 1 :: C>=10% | - | - |
| | STOT SE 2 :: 3%<=C<10% | | |

| Reach Registration Number 01-2119433307-44 |
|--|
|--|

Full text of Hazard Statements: see section 16

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

General Advice Immediate medical attention is required. Show this safety data sheet to the doctor in

attendance.

Eye Contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

Immediate medical attention is required.

Skin Contact Wash off immediately with plenty of water for at least 15 minutes. Immediate medical

attention is required.

Ingestion Do NOT induce vomiting. Call a physician or poison control center immediately.

Inhalation Remove to fresh air. If breathing is difficult, give oxygen. Do not use mouth-to-mouth

method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

Immediate medical attention is required.

Self-Protection of the First Aider Ensure that medical personnel are aware of the material(s) involved, take precautions to

protect themselves and prevent spread of contamination. Use personal protective equipment as required. Avoid contact with skin, eyes or clothing. Remove all sources of ignition. No artificial respiration, mouth-to-mouth or mouth to nose. Use suitable

instruments/apparatus. Avoid contact with skin.

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

Difficulty in breathing. May cause blindness: Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting

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

Notes to Physician Treat symptomatically. Symptoms may be delayed.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

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Suitable Extinguishing Media

Water spray, carbon dioxide (CO2), dry chemical, alcohol-resistant foam. Water mist may be used to cool closed containers.

Extinguishing media which must not be used for safety reasons

Do not use a solid water stream as it may scatter and spread fire.

5.2. Special hazards arising from the substance or mixture

Flammable. Risk of ignition. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Containers may explode when heated. Vapors may form explosive mixtures with air.

Hazardous Combustion Products

Carbon monoxide (CO), Formaldehyde.

5.3. Advice for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Use personal protective equipment as required. Ensure adequate ventilation. Remove all sources of ignition. Take precautionary measures against static discharges.

6.2. Environmental precautions

Should not be released into the environment. See Section 12 for additional Ecological Information.

6.3. Methods and material for containment and cleaning up

Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

6.4. Reference to other sections

Refer to protective measures listed in Sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Wear personal protective equipment/face protection. Do not breathe mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Use only under a chemical fume hood. Do not ingest. If swallowed then seek immediate medical assistance. Keep away from open flames, hot surfaces and sources of ignition. Use only non-sparking tools. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Take precautionary measures against static discharges.

Hygiene Measures

When using do not eat, drink or smoke. Provide regular cleaning of equipment, work area and clothing.

7.2. Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Keep away from open flames, hot surfaces and sources of ignition. Flammables area.

Technical Rules for Hazardous Substances (TRGS) 510 Storage Class (LGK) (Germany)

Storage Class/LGK 3

7.3. Specific end use(s)

Use in laboratories

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure limits

List source(s): **EU** - Commission Directive (EU) 2019/1831 of 24 October 2019 establishing a fifth list of indicative occupational exposure limit values pursuant to Council Directive 98/24/EC and amending Commission Directive 2000/39/EC **UK** - EH40/2005 Work Exposure Limits, Third edition. Published 2018. **IRE** - 2010 Code of Practice for the Safety, Health and Welfare at Work (Chemical Agents) Regulations 2001. Published by the Health and Safety Authority.

| Component | European Union | The United Kingdom | France | Belgium | Spain |
|-----------|---------------------------------|----------------------------------|----------------------------------|-----------------------------------|-------------------|
| Methanol | TWA: 200 ppm 8 hr | WEL - TWA: 200 ppm | TWA / VME: 200 ppm (8 | TWA: 200 ppm 8 uren | TWA / VLA-ED: 200 |
| | TWA: 260 mg/m ³ 8 hr | TWA; 266 mg/m ³ TWA | heures). restrictive limit | TWA: 266 mg/m ³ 8 uren | ppm (8 horas) |
| | Skin | WEL - STEL: 250 ppm | TWA / VME: 260 mg/m ³ | STEL: 250 ppm 15 | TWA / VLA-ED: 266 |
| | | STEL; 333 mg/m ³ STEL | (8 heures). restrictive | minuten | mg/m³ (8 horas) |
| | | | limit | STEL: 333 mg/m ³ 15 | Piel |
| | | | STEL / VLCT: 1000 | minuten | |
| | | | ppm. | Huid | |
| | | | STEL / VLCT: 1300 | | |
| | | | mg/m³. | | |
| | | | Peau | | |

| Component | Italy | Germany | Portugal | The Netherlands | Finland |
|-----------|-----------------------------------|------------------|------------------------------|-----------------------------------|--------------------------------|
| Methanol | TWA: 200 ppm 8 ore. | 100 ppm TWA MAK; | STEL: 250 ppm 15 | huid | TWA: 200 ppm 8 |
| | Media Ponderata nel | 130 mg/m³ TWA | minutos | TWA: 133 mg/m ³ 8 uren | tunteina |
| | Tempo | MAKSkin absorber | TWA: 200 ppm 8 horas | | TWA: 270 mg/m ³ 8 |
| | TWA: 260 mg/m ³ 8 ore. | | TWA: 260 mg/m ³ 8 | | tunteina |
| | Media Ponderata nel | | horas | | STEL: 250 ppm 15 |
| | Tempo | | Pele | | minuutteina |
| | Pelle | | | | STEL: 330 mg/m ³ 15 |
| | | | | | minuutteina |
| | | | | | lho |

| Component | Austria | Denmark | Switzerland | Poland | Norway |
|-----------|---------------------------------|------------------------------------|---------------------------------|--------------------------------|------------------------------------|
| Methanol | Haut | TWA: 200 ppm 8 timer | Haut/Peau | STEL: 300 mg/m ³ 15 | TWA: 100 ppm 8 timer |
| | MAK-KZW: 800 ppm 15 | TWA: 260 mg/m ³ 8 timer | STEL: 800 ppm 15 | minutach | TWA: 130 mg/m ³ 8 timer |
| | Minuten | Hud | Minuten | TWA: 100 mg/m ³ 8 | STEL: 125 ppm 15 |
| | MAK-KZW: 1040 mg/m ³ | | STEL: 1040 mg/m ³ 15 | godzinach | minutter. value |
| | 15 Minuten | | Minuten | _ | calculated |
| | MAK-TMW: 200 ppm 8 | | TWA: 200 ppm 8 | | STEL: 162.5 mg/m ³ 15 |
| | Stunden | | Stunden | | minutter. value |
| | MAK-TMW: 260 mg/m ³ | | TWA: 260 mg/m ³ 8 | | calculated |
| | 8 Stunden | | Stunden | | Hud |

| Component | Bulgaria | Croatia | Ireland | Cyprus | Czech Republic |
|-----------|------------------------------|----------------------------------|----------------------------------|----------------------------|---------------------------------|
| Methanol | TWA: 200 ppm | kože | TWA: 200 ppm 8 hr. | Skin-potential for | TWA: 250 mg/m ³ 8 |
| | TWA: 260.0 mg/m ³ | TWA-GVI: 200 ppm 8 | TWA: 260 mg/m ³ 8 hr. | cutaneous absorption | hodinách. |
| | Skin notation | satima. | STEL: 600 ppm 15 min | TWA: 200 ppm | Potential for cutaneous |
| | | TWA-GVI: 260 mg/m ³ 8 | STEL: 780 mg/m ³ 15 | TWA: 260 mg/m ³ | absorption |
| | | satima. | min | _ | Ceiling: 1000 mg/m ³ |
| | | | Skin | | |

| Component | Estonia | Gibraltar | Greece | Hungary | Iceland |
|-----------|------------------------------|---------------------------------|-----------------------------|------------------------------|--------------------------------|
| Methanol | Nahk | Skin notation | skin - potential for | TWA: 260 mg/m ³ 8 | TWA: 200 ppm 8 |
| | TWA: 200 ppm 8 | TWA: 200 ppm 8 hr | cutaneous absorption | órában. AK | klukkustundum. |
| | tundides. | TWA: 260 mg/m ³ 8 hr | STEL: 250 ppm | lehetséges borön | TWA: 260 mg/m ³ 8 |
| | TWA: 250 mg/m ³ 8 | | STEL: 325 mg/m ³ | keresztüli felszívódás | klukkustundum. |
| | tundides. | | TWA: 200 ppm | | Skin notation |
| | STEL: 250 ppm 15 | | TWA: 260 mg/m ³ | | Ceiling: 400 ppm |
| | minutites. | | | | Ceiling: 520 mg/m ³ |

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| STEL: 350 mg/m ³ 15 | | 1 |
|--------------------------------|--|---|
| 0122.000 mg/m 10 | | 1 |
| minutites. | | 1 |
| L | | |

| Component | Latvia | Lithuania | Luxembourg | Malta | Romania |
|-----------|----------------------------|---------------------------------|------------------------------|----------------------------|----------------------------------|
| Methanol | skin - potential for | TWA: 200 ppm IPRD | Possibility of significant | possibility of significant | Skin notation |
| | cutaneous exposure | TWA: 260 mg/m ³ IPRD | uptake through the skin | uptake through the skin | TWA: 200 ppm 8 ore |
| | TWA: 200 ppm | Oda | TWA: 200 ppm 8 | TWA: 200 ppm | TWA: 260 mg/m ³ 8 ore |
| | TWA: 260 mg/m ³ | | Stunden | TWA: 260 mg/m ³ | |
| | 1 | | TWA: 260 mg/m ³ 8 | _ | |
| | | | Stunden | | |

| Component | Russia | Slovak Republic | Slovenia | Sweden | Turkey |
|-----------|---------------------------------|----------------------------|-----------------------------------|------------------------------|-----------------------------------|
| Methanol | TWA: 5 mg/m ³ 1269 | Potential for cutaneous | TWA: 200 ppm 8 urah | Indicative STEL: 250 | Deri |
| | Skin notation | absorption | TWA: 260 mg/m ³ 8 urah | ppm 15 minuter | TWA: 200 ppm 8 saat |
| | STEL: 15 mg/m ³ 1269 | TWA: 200 ppm | Koža | Indicative STEL: 350 | TWA: 260 mg/m ³ 8 saat |
| | _ | TWA: 260 mg/m ³ | STEL: 800 ppm 15 | mg/m ³ 15 minuter | _ |
| | | _ | minutah | TLV: 200 ppm 8 timmar. | |
| | | | STEL: 1040 mg/m ³ 15 | NGV | |
| | | | minutah | TLV: 250 mg/m ³ 8 | |
| | | | | timmar. NGV | |
| | | | | Hud | |

Biological limit values

List source(s):

| Component | European Union | United Kingdom | France | Spain | Germany |
|-----------|----------------|----------------|-------------------------|-------------------------|--------------------------|
| Methanol | | | Methanol: 15 mg/L urine | Methanol: 15 mg/L urine | Methanol: 15 mg/L urine |
| | | | end of shift | end of shift | (end of shift) |
| | | | | | Methanol: 15 mg/L urine |
| | | | | | (for long-term |
| | | | | | exposures: at the end of |
| | | | | | the shift after several |
| | | | | | shifts) |

| Component | Italy | Finland | Denmark | Bulgaria | Romania |
|-----------|-------|---------|---------|----------|------------------------|
| Methanol | | | | | Methanol: 6 mg/L urine |
| | | | | | end of shift |

| Component | Gibraltar | Latvia | Slovak Republic | Luxembourg | Turkey |
|-----------|-----------|-------------------------|---------------------------|------------|--------|
| Methanol | | | Methanol: 30 mg/L urine | | |
| | | end of exposure or work | | | |
| | | shift | | | |
| | | Methanol: 30 mg/L urine | | | |
| | | | after all work shifts for | | |
| | | | long-term exposure | | |

Monitoring methods

BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents.

MDHS70 General methods for sampling airborne gases and vapours

MDHS 88 Volatile organic compounds in air. Laboratory method using diffusive samplers, solvent desorption and gas chromatography

MDHS 96 Volatile organic compounds in air - Laboratory method using pumped solid sorbent tubes, solvent desorption and gas chromatography

Derived No Effect Level (DNEL) See table for values

| Route of exposure | Acute effects (local) | Acute effects (systemic) | Chronic effects (local) | Chronic effects (systemic) |
|-------------------|-----------------------|--------------------------|-------------------------|----------------------------|
| Oral | | | | |
| Dermal | | 20 mg/kg bw/day | | 20 mg/kg bw/day |
| Inhalation | 130 mg/m ³ | 130 mg/m ³ | 130 mg/m ³ | 130 mg/m ³ |

Predicted No Effect Concentration See values below.

(PNEC)

Fresh water 154 mg/l
Fresh water sediment 570.4 mg/kg
Marine water 15.4 mg/l
Microorganisms in sewage 100 mg/l

treatment

Soil (Agriculture) 23.5 mg.kg

8.2. Exposure controls

Engineering Measures

Use only under a chemical fume hood. Use explosion-proof electrical/ventilating/lighting/equipment. Ensure that eyewash stations and safety showers are close to the workstation location.

Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

Personal protective equipment

Eye Protection Tight sealing safety goggles (European standard - EN 166)

Hand Protection Protective gloves

| Glove material | Breakthrough time | Glove thickness | EU standard | Glove comments |
|-----------------|-------------------|-----------------|-------------|--|
| Butyl rubber | > 480 minutes | 0.35 mm | Level 6 | As tested under EN374-3 Determination of |
| Viton (R) | > 480 minutes | 0.70 mm | EN 374 | Resistance to Permeation by Chemicals |
| Neoprene gloves | < 60 minutes | 0.45 mm | | • |
| Nitrile rubber | < 30 minutes | 0.38 mm | | |

Skin and body protection

Long sleeved clothing

Inspect gloves before use. observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information) gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion. gloves with care avoiding skin contamination.

Respiratory Protection When workers are facing concentrations above the exposure limit they must use

appropriate certified respirators.

To protect the wearer, respiratory protective equipment must be the correct fit and be used

and maintained properly

Large scale/emergency use Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits

are exceeded or if irritation or other symptoms are experienced

Recommended Filter type: low boiling organic solvent Type AX Brown conforming to

EN371

Small scale/Laboratory use Use a NIOSH/MSHA or European Standard EN 149:2001 approved respirator if exposure

limits are exceeded or if irritation or other symptoms are experienced.

Recommended half mask:- Valve filtering: EN405; or; Half mask: EN140; plus filter, EN

141

When RPE is used a face piece Fit Test should be conducted

Environmental exposure controls No information available.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical State Liquid

Appearance Colorless

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Odor
Odor Threshold
Melting Point/Range
Softening Point
Boiling Point/Range
Alcohol-like
No data available
-98 °C / -144.4 °F
No data available
64.7 °C / 148.5 °F

Boiling Point/Range 64.7 °C / 148.5 °F @ 760 mmHg **Flammability (liquid)** Highly flammable On basis of test data

Flammability (solid,gas) Not applicable Liquid

Explosion Limits Lower 6 vol%

Upper 31 vol%

Flash Point 9.7 °C / 49.5 °F Method - No information available

Autoignition Temperature

Decomposition Temperature
pH

Viscosity

455 °C / 851 °F
No data available
Not applicable
0.55 cP at 20 °C

Water Solubility Miscible

Solubility in other solvents No information available

Partition Coefficient (n-octanol/water)

Component log Pow Methanol -0.74

Vapor Pressure 128 hPa @ 20 °C

Density / Specific Gravity 0.791

Bulk DensityNot applicableLiquidVapor Density1.11(Air = 1.0)

Particle characteristics Not applicable (liquid)

9.2. Other information

Molecular Formula C H4 O
Molecular Weight 32.04
VOC Content(%) 100

Explosive Properties Vapors may form explosive mixtures with air

 Evaporation Rate
 5.2 (ether = 1)

 Surface tension
 0.02255 N/m @ 20°C

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

None known, based on information available

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Hazardous Polymerization Hazardous polymerization does not occur.

Hazardous Reactions None under normal processing.

10.4. Conditions to avoid

Incompatible products. Heat, flames and sparks. Keep away from open flames, hot

surfaces and sources of ignition.

10.5. Incompatible materials

Strong oxidizing agents. Strong acids. Acid anhydrides. Acid chlorides. Strong bases.

Metals. Peroxides.

10.6. Hazardous decomposition products

Carbon monoxide (CO). Formaldehyde.

SECTION 11: TOXICOLOGICAL INFORMATION

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

Product Information

(a) acute toxicity;

OralCategory 3DermalCategory 3InhalationCategory 3

| Component | LD50 Oral | LD50 Dermal | LC50 Inhalation | | |
|-----------|--------------------------------|-------------------------------|-------------------------------|--|--|
| Methanol | LD50 > 1187 – 2769 mg/kg (Rat | LD50 = 17100 mg/kg (Rabbit) | LC50 = 128.2 mg/L (Rat) 4 h | | |
| |) | | | | |

(b) skin corrosion/irritation; Based on available data, the classification criteria are not met

(c) serious eye damage/irritation; Based on available data, the classification criteria are not met

(d) respiratory or skin sensitization;

RespiratorySkin
Based on available data, the classification criteria are not met
Based on available data, the classification criteria are not met

| Component | Component Test method | | Study result |
|-----------------|------------------------------|------------|-----------------|
| Methanol | OECD Test Guideline 406 | guinea pig | non-sensitising |
| 67-56-1 (>95) | Guinea Pig Maximisation Test | | |
| | (GPMT) | | |

(e) germ cell mutagenicity; Based on available data, the classification criteria are not met

(f) carcinogenicity; Based on available data, the classification criteria are not met

There are no known carcinogenic chemicals in this product

(g) reproductive toxicity; Based on available data, the classification criteria are not met

| Component Methanol | | Test method | Test species / Duration | Study result |
|-----------------------|-----------------|-------------------------|-------------------------|----------------|
| | Methanol | OECD Test Guideline 416 | Rat / Inhalation | NOAEC = |
| | 67-56-1 (>95) | | 2 Generation | 1.3 mg/l (air) |

Developmental EffectsComponent substance is listed on California Proposition 65 as a developmental hazard.

(h) STOT-single exposure; Category 1

Results / Target organs Optic nerve, Central nervous system (CNS).

(i) STOT-repeated exposure; Based on available data, the classification criteria are not met

Target Organs None known.

(j) aspiration hazard; Based on available data, the classification criteria are not met

Symptoms / effects,both acute and May cause blindness. Inhalation of high vapor concentrations may cause symptoms like

delayed headache, dizziness, tiredness, nausea and vomiting.

11.2. Information on other hazards

Endocrine Disrupting Properties

Assess endocrine disrupting properties for human health. This product does not contain any known or suspected endocrine disruptors.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity Footoxicity effects

Ecotoxicity effects

| Component | Freshwater Fish | Water Flea | Freshwater Algae |
|-----------|-----------------------------|-----------------------|------------------|
| Methanol | Pimephales promelas: LC50 > | EC50 > 10000 mg/L 24h | |
| | 10000 mg/L 96h | | |

| Component | Microtox | M-Factor |
|-----------|--------------------------|----------|
| Methanol | EC50 = 39000 mg/L 25 min | |
| | EC50 = 40000 mg/L 15 min | |
| | EC50 = 43000 mg/L 5 min | |

12.2. Persistence and degradability Readily biodegradable

Persistence Persistence is unlikely, based on information available.

| Component | Degradability | | |
|---------------|----------------|--|--|
| Methanol | DT50 ~ 17.2d | | |
| 67-56-1 (>95) | >94% after 20d | | |

12.3. Bioaccumulative potential Bioaccumulation is unlikely

| Component | log Pow | Bioconcentration factor (BCF) |
|-----------|---------|-------------------------------|
| Methanol | -0.74 | <10 |

12.4. Mobility in soilThe product contains volatile organic compounds (VOC) which will evaporate easily from all

surfaces Will likely be mobile in the environment due to its volatility. Disperses rapidly in

air

Surface tension 0.02255 N/m @ 20°C

12.5. Results of PBT and vPvB

assessment

Substance is not considered to be persistent, bioaccumulative and toxic (PBT). Substance

is not considered to be very persistent and very bioaccumulative (vPvB).

12.6. Endocrine disrupting

properties

Endocrine Disruptor Information

This product does not contain any known or suspected endocrine disruptors

12.7. Other adverse effects

Persistent Organic Pollutant Ozone Depletion Potential This product does not contain any known or suspected substance This product does not contain any known or suspected substance

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste from Residues/Unused Products

Waste is classified as hazardous. Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations.

Contaminated Packaging Dispose of this container to hazardous or special waste collection point. Empty containers

retain product residue, (liquid and/or vapor), and can be dangerous. Keep product and

empty container away from heat and sources of ignition.

European Waste Catalogue (EWC)

According to the European Waste Catalog, Waste Codes are not product specific, but

application specific.

Other Information Waste codes should be assigned by the user based on the application for which the product

was used. Do not flush to sewer. Can be landfilled or incinerated, when in compliance with

local regulations.

SECTION 14: TRANSPORT INFORMATION

IMDG/IMO

14.1. UN numberUN123014.2. UN proper shipping nameMETHANOL

14.3. Transport hazard class(es) 3
Subsidiary Hazard Class 6.1
14.4. Packing group II

<u>ADR</u>

14.1. UN numberUN123014.2. UN proper shipping nameMETHANOL

14.3. Transport hazard class(es) 3
Subsidiary Hazard Class 6.1
14.4. Packing group II

IATA

14.1. UN numberUN123014.2. UN proper shipping nameMETHANOL

14.3. Transport hazard class(es) 3 Subsidiary Hazard Class 6.1 14.4. Packing group II

14.5. Environmental hazards No hazards identified

14.6. Special precautions for user No special precautions required

<u>14.7. Maritime transport in bulk</u> according to IMO instruments

Not applicable, packaged goods

SECTION 15: REGULATORY INFORMATION

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

International Inventories

X = listed, Europe (EINECS/ELINCS/NLP), U.S.A. (TSCA), Canada (DSL/NDSL), Philippines (PICCS), China (IECSC), Japan (ENCS), Australia (AICS), Korea (ECL).

| Component | EINECS | ELINCS | NLP | TSCA | DSL | NDSL | PICCS | ENCS | IECSC | AICS | KECL |
|-----------|-----------|---------------|-----|------|-----|------|-------|------|-------|------|---------|
| Methanol | 200-659-6 | - | | Х | Х | - | Χ | Χ | Χ | Χ | KE-2319 |
| | | | | | | | | | | | 3 |

| Component | REACH (1907/2006) - Annex XIV - | REACH (1907/2006) - Annex XVII - | REACH Regulation (EC |
|-----------|---------------------------------|---------------------------------------|-----------------------------------|
| | Substances Subject to | Restrictions on Certain Dangerous | 1907/2006) article 59 - Candidate |
| | Authorization | Substances | List of Substances of Very High |
| | | | Concern (SVHC) |
| Methanol | Use restricted. See item 69. | | |
| | | (see | |
| | | http://eur-lex.europa.eu/LexUriServ/L | |

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| exUriServ.do?uri=CELEX:32006R190 | |
|-----------------------------------|--|
| 7:EN:NOT for restriction details) | |

| Component | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements |
|-----------|--|--|
| Methanol | 500 tonne | 5000 tonne |

Regulation (EC) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of dangerous chemicals

Not applicable

National Regulations

See table for values **WGK Classification**

| Component | Germany - Water Classification (VwVwS) | Germany - TA-Luft Class |
|-----------|--|-------------------------|
| Methanol | WGK 2 | |

| Component | France - INRS (Tables of occupational diseases) |
|-----------|--|
| Methanol | Tableaux des maladies professionnelles (TMP) - RG 84 |

Take note of Control of Substances Hazardous to Health Regulations (COSHH) 2002 and 2005 Amendment

15.2. Chemical safety assessment

A Chemical Safety Assessment/Report (CSA/CSR) has been conducted by the manufacturer/importer

SECTION 16: OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3

H225 - Highly flammable liquid and vapor

H301 - Toxic if swallowed

H311 - Toxic in contact with skin

H331 - Toxic if inhaled

H370 - Causes damage to organs

Legend

CAS - Chemical Abstracts Service

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

EINECS/ELINCS - European Inventory of Existing Commercial Chemical DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances/EU List of Notified Chemical Substances

Substances List **ENCS** - Japanese Existing and New Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances **IECSC** - Chinese Inventory of Existing Chemical Substances

AICS - Australian Inventory of Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

NZIoC - New Zealand Inventory of Chemicals

WEL - Workplace Exposure Limit

ACGIH - American Conference of Governmental Industrial Hygienists

DNEL - Derived No Effect Level

RPE - Respiratory Protective Equipment

LC50 - Lethal Concentration 50%

NOEC - No Observed Effect Concentration

PBT - Persistent, Bioaccumulative, Toxic

ADR - European Agreement Concerning the International Carriage of

Dangerous Goods by Road IMO/IMDG - International Maritime Organization/International Maritime Dangerous Goods Code

OECD - Organisation for Economic Co-operation and Development

BCF - Bioconcentration factor

TWA - Time Weighted Average

IARC - International Agency for Research on Cancer

Predicted No Effect Concentration (PNEC)

LD50 - Lethal Dose 50%

EC50 - Effective Concentration 50%

POW - Partition coefficient Octanol:Water

vPvB - very Persistent, very Bioaccumulative

ICAO/IATA - International Civil Aviation Organization/International Air Transport Association

MARPOL - International Convention for the Prevention of Pollution from

Ships

ATE - Acute Toxicity Estimate

VOC (volatile organic compound)

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Key literature references and sources for data

https://echa.europa.eu/information-on-chemicals

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

Training Advice

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

Use of personal protective equipment, covering appropriate selection, compatibility, breakthrough thresholds, care, maintenance, fit and standards.

First aid for chemical exposure, including the use of eye wash and safety showers.

Chemical incident response training.

Fire prevention and fighting, identifying hazards and risks, static electricity, explosive atmospheres posed by vapours and dusts.

Creation Date 27-Apr-2009 **Revision Date** 03-Jan-2021

Revision Summary Update to CLP Format.

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006 COMMISSION REGULATION (EU) 2020/878 amending Annex II to Regulation (EC) No 1907/2006

Disclaimer

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End of Safety Data Sheet