

1. Identification

Product identifier **METHANOL**
Other means of identification Not available.
Recommended use INTERNAL USE - PROCESS INTERMEDIATE
Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company Information INVISTA S.à r.l.
 INVISTA Building
 4123 East 37th Street North
 Wichita, KS 67220

Emergency telephone: CHEMTREC: 855-224-6545

General Information Product Information: 1-877-446-8478
 Outside the U.S.: +1-770-792-4221

e-mail sds@invista.com

2. Hazard(s) identification

Physical hazards	Flammable liquids	Category 2
Health hazards	Acute toxicity, oral	Category 3
	Acute toxicity, dermal	Category 3
	Acute toxicity, inhalation	Category 3
	Specific target organ toxicity, repeated exposure	Category 1
OSHA defined hazards	Not classified.	

Label elements



Signal word Danger

Hazard statement Highly flammable liquid and vapor. Toxic if swallowed. Toxic in contact with skin. Toxic if inhaled. Causes damage to organs (Optic Nerve, Central Nervous System) through prolonged or repeated exposure.

Prevention Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Do not breathe mist or vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection.

Response If swallowed: Immediately call a poison center/doctor. If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Take off immediately all contaminated clothing and wash it before reuse. Wash contaminated clothing before re-use. If inhaled: Remove person to fresh air and keep comfortable for breathing. Immediately call a poison center/doctor.

Storage Store in a well-ventilated place. Keep container tightly closed. Keep cool. Store locked up.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC) Not classified.

3. Composition/information on ingredients

Substances

Chemical name	Common name and synonyms	CAS number	%
METHANOL		67-56-1	>99%

4. First-aid measures

Inhalation	If the affected person is not breathing, apply artificial respiration. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Get medical attention immediately.
Skin contact	Take off immediately all contaminated clothing. In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. For minor skin contact, avoid spreading material on unaffected skin. Wash clothing separately before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.
Ingestion	If swallowed, do NOT induce vomiting. If material is ingested, immediately contact a physician or poison control center. Have victim rinse mouth thoroughly with water. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Never give anything by mouth to a victim who is unconscious or is having convulsions. Do not use mouth-to-mouth method if victim ingested the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.
Most important symptoms/effects, acute and delayed	Toxic by inhalation, in contact with skin and if swallowed. Skin: Symptoms may include redness, edema, drying, defatting and cracking of the skin. Absorption through the skin can lead to toxic effects including unconsciousness or death. Eyes: Contact with eyes may cause irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Ingestion of this product may result in central nervous system effects including headache, sleepiness, dizziness, slurred speech and blurred vision. Inhalation: Inhalation of vapors/fumes causes respiratory irritation with throat discomfort, coughing or difficulty breathing. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting. Exposure to high concentrations can lead to toxic effects including unconsciousness or death. Ingestion: Ingestion of this product may cause nausea, vomiting and diarrhea. Ingestion of this product may result in central nervous system effects including headache, sleepiness, dizziness, slurred speech and blurred vision. Ingestion of large quantities may lead to blindness. Exposure to high concentrations can lead to toxic effects including unconsciousness or death.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed.
General information	Take off immediately all contaminated clothing. In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Show this safety data sheet to the doctor in attendance. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media	Alcohol resistant foam. Water fog. Dry chemical powder. Carbon dioxide (CO ₂).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back. During fire, gases hazardous to health may be formed. Irritating and toxic gases or fumes may be released during a fire. May include oxides of carbon, formaldehyde.
Special protective equipment and precautions for firefighters	Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.
Fire-fighting equipment/instructions	In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do it without risk. Use standard firefighting procedures and consider the hazards of other involved materials. In the event of fire, cool tanks with water spray.
Specific methods	Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. ALWAYS stay away from tanks engulfed in flame.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Immediately evacuate personnel to safe areas. Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Ventilate closed spaces before entering. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Take precautionary measures against static discharge. Use only non-sparking tools. Prevent entry into waterways, sewers, basements or confined areas. Keep combustibles (wood, paper, oil, etc.) away from spilled material. Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible.

Large Spills: Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling

Vapors may form explosive mixtures with air. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Wash hands after handling and before eating. Wear appropriate personal protective equipment. Do not get this material in your eyes, on your skin, or on your clothing. Use only outdoors or in a well-ventilated area. Observe good industrial hygiene practices. When using, do not eat, drink or smoke. Wash contaminated clothing before reuse. Handle and open container with care. Follow all SDS/label precautions even after container(s) is/are emptied because they may retain product residue(s).

Conditions for safe storage, including any incompatibilities

Keep away from heat, sparks, and flame. Store locked up. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in a closed container away from incompatible materials. Store in a cool, dry place out of direct sunlight. Keep in an area equipped with sprinklers. Keep under a nitrogen blanket.

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Material	Type	Value
METHANOL (CAS 67-56-1)	PEL	260 mg/m ³ 200 ppm

US. ACGIH Threshold Limit Values

Material	Type	Value
METHANOL (CAS 67-56-1)	STEL	250 ppm
	TWA	200 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Material	Type	Value
METHANOL (CAS 67-56-1)	STEL	325 mg/m ³ 250 ppm
	TWA	260 mg/m ³ 200 ppm

Biological limit values

ACGIH Biological Exposure Indices

Material	Value	Determinant	Specimen	Sampling Time
METHANOL (CAS 67-56-1)	15 mg/l	Methanol	Urine	*

* - For sampling details, please see the source document.

Exposure guidelines

US - California OELs: Skin designation

METHANOL (CAS 67-56-1) Can be absorbed through the skin.

US - Minnesota Haz Subs: Skin designation applies

METHANOL (CAS 67-56-1)

Skin designation applies.

US - Tennessee OELs: Skin designation

METHANOL (CAS 67-56-1)

Can be absorbed through the skin.

US ACGIH Threshold Limit Values: Skin designation

METHANOL (CAS 67-56-1)

Can be absorbed through the skin.

US NIOSH Pocket Guide to Chemical Hazards: Skin designation

METHANOL (CAS 67-56-1)

Can be absorbed through the skin.

Appropriate engineering controls

Explosion-proof exhaust ventilation should be used. Prevent electrostatic charge build-up by using common bonding and grounding techniques.

Individual protection measures, such as personal protective equipment**Eye/face protection**

Wear chemical goggles. Wear a full-face respirator, if needed.

Hand protection

Wear protective gloves.

Other

Wear appropriate chemical resistant clothing.

Respiratory protection

When workers are facing concentrations above the exposure limit, they must use appropriate certified respirators. In case of insufficient ventilation, wear suitable respiratory equipment.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

When using, do not smoke. When using, do not eat, drink or smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties**Appearance**

Colorless Liquid.

Physical state

Liquid.

Form

Liquid.

Color

Colorless.

Odor

Alcoholic.

Odor threshold

100 - 1500 ppm

pH

Neutral

Melting point/freezing point

-144.4 °F (-98 °C) / -144.04 °F (-97.8 °C)

Initial boiling point and boiling range

148.46 °F (64.7 °C) 101.325 kPa

Flash point

53.6 °F (12 °C) Closed Cup

Evaporation rate

2.1 (butyl acetate=1)

Flammability (solid, gas)

Not available.

Upper/lower flammability or explosive limits**Flammability limit - lower (%)**

6

Flammability limit - upper (%)

36.5

Explosive limit - lower (%)

Not available.

Explosive limit - upper (%)

Not available.

Vapor pressure

16.932 kPa at 25°C

Vapor density

1.1

Relative density (liquid)

Not available.

Solubility(ies)

Miscible

Partition coefficient (n-octanol/water)

-0.77

Auto-ignition temperature

725 °F (385 °C)

Decomposition temperature

Not available.

Viscosity

Not available.

Other information**Density**0.79 g/cm³ estimated**Dynamic viscosity**

0.61 mPa.s

Heat of combustion (NFPA 30B)	19 kJ/g
Molecular formula	C-H4-O
Molecular weight	32.04 g/mol
Percent volatile	100 %
Specific gravity	0.79 at 25 °C
VOC (Weight %)	100 %

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Risk of explosion. Risk of ignition. Material is stable under normal conditions.
Possibility of hazardous reactions	Will not occur.
Conditions to avoid	Heat, flames and sparks. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Strong acids, alkalies and oxidizing agents.
Hazardous decomposition products	Irritating and/or toxic fumes and gases may be emitted upon the product's decomposition. Carbon monoxide. Formaldehyde.

11. Toxicological information

Information on likely routes of exposure

Ingestion	Toxic if swallowed. Ingestion of this product may cause nausea, vomiting and diarrhea. Exposure to high concentrations can lead to toxic effects including unconsciousness or death.
Inhalation	Toxic by inhalation. Inhalation of vapors/fumes causes respiratory irritation with throat discomfort, coughing or difficulty breathing. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting. Exposure to high concentrations can lead to toxic effects including unconsciousness or death.
Skin contact	Toxic in contact with skin. Symptoms may include redness, edema, drying, defatting and cracking of the skin. Absorption through the skin to can lead to toxic effects including unconsciousness or death.
Eye contact	Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Ingestion of this product may result in central nervous system effects including headache, sleepiness, dizziness, slurred speech and blurred vision.

Symptoms related to the physical, chemical and toxicological characteristics See information on likely routes of exposure.

Information on toxicological effects

Acute toxicity Toxic by inhalation, in contact with skin and if swallowed.

Product	Species	Test Results
METHANOL (CAS 67-56-1)		
Acute		
<i>Dermal</i>		
LC50	Rabbit	17100 mg/kg
<i>Inhalation</i>		
LC50		83.2 mg/l/4h
<i>Oral</i>		
LC50	Rat	1187 mg/kg

Skin corrosion/irritation Based on available data, the classification criteria are not met. Contact with skin may cause irritation.

Serious eye damage/eye irritation Based on available data, the classification criteria are not met. Contact with eyes may cause irritation.

Respiratory sensitization Based on available data, the classification criteria are not met.

Skin sensitization Based on available data, the classification criteria are not met.

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

Carcinogenicity This product is not listed as a carcinogen by IARC, ACGIH, NTP, or OSHA.

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

Specific target organ toxicity - single exposure Based on available data, the classification criteria are not met.

Specific target organ toxicity - repeated exposure	Causes damage to organs (Central Nervous System, Optic Nerve) through prolonged or repeated exposure.
Aspiration hazard	Based on available data, the classification criteria are not met.
Chronic effects	None known.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Product	Species	Test Results
METHANOL (CAS 67-56-1)		
<i>Acute</i>		
Crustacea	EC50	Daphnia magna > 10000 mg/l, 48 hours
Other	EC50	Selenastrum capricornutum (new name) 22000 mg/l, 96 hours Pseudokirchnerella subca
Aquatic		
<i>Acute</i>		
Fish	LC50	Bluegill (Lepomis macrochirus) 15400 mg/l, 96 hours

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential Not available.

Partition coefficient n-octanol / water (log Kow)
-0.77

Mobility in soil This product is miscible in water.

Other adverse effects Not available.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

UN number	UN1230
UN proper shipping name	Methanol
Transport hazard class(es)	3
Subsidiary class(es)	Not applicable.
Packing group	II
Marine pollutant	No

IATA

UN number	UN1230
UN proper shipping name	Methanol
Transport hazard class(es)	3
Subsidiary class(es)	6.1
Packaging group	II
Environmental hazards	No
ERG Code	3P

IMDG

UN number	UN1230
UN proper shipping name	METHANOL
Transport hazard class(es)	3
Subsidiary class(es)	6.1
Packaging group	II
Marine pollutant	No
EmS	F-E, S-D

DOT



IATA; IMDG



15. Regulatory information

US federal regulations

All components are on the U.S. EPA TSCA Inventory List or are not required to be listed on the inventory.

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: De minimis concentration

METHANOL (CAS 67-56-1) 1.0 %

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance

METHANOL (CAS 67-56-1) Listed.

CERCLA Hazardous Substance List (40 CFR 302.4)

METHANOL (CAS 67-56-1) LISTED

US CERCLA Hazardous Substances: Reportable quantity

METHANOL (CAS 67-56-1) 5000 lbs

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
Immediate Hazard - Yes
Delayed Hazard - Yes
Fire Hazard - Yes
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance No

SARA 311/312 Hazardous chemical No

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

METHANOL (CAS 67-56-1)

Safe Drinking Water Act (SDWA) Contaminate candidate list

US state regulations

US. Massachusetts RTK - Substance List

METHANOL (CAS 67-56-1)

US. New Jersey Worker and Community Right-to-Know Act

METHANOL (CAS 67-56-1) 500 lbs

US. Pennsylvania RTK - Hazardous Substances

METHANOL (CAS 67-56-1)

US. Rhode Island RTK

METHANOL (CAS 67-56-1)

US. California Proposition 65

WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

16. Other information, including date of preparation or last revision**Issue date** November-24-2014**Revision date** 24-Nov-2014**Version #** 1.0**Further information** Not available.**HMIS® ratings** Health: 2*
Flammability: 3
Physical hazard: 0**NFPA ratings** Health: 1
Flammability: 3
Instability: 0**References** Internal assessments, testing and research.

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This disclaimer shall be effective to the extent allowed by law. Should any provision be deemed to be ineffective or unenforceable, that provision shall be deemed severed from the disclaimer and the remaining provisions shall continue to have full force and effect. The information in the sheet was written based on the best knowledge and experience currently available.

Revision Information This document has undergone significant changes and should be reviewed in its entirety.