

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Product name : CSI-5562

1.2. Recommended use and restrictions on use

No additional information available

1.3. Supplier

Smart Chemical Solutions, LLC
3505 Olsen Blvd
Suite 201
Amarillo, TX 79109
T (806) 367-8031

1.4. Emergency telephone number

Emergency number : CHEMTREC 1-800-424-9300

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Flammable liquids Category 3	H226	Flammable liquid and vapor
Specific target organ toxicity (single exposure) Category 1	H370	Causes damage to organs
Hazardous to the aquatic environment - Acute Hazard Category 1	H400	Very toxic to aquatic life

Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) :

Danger

Hazard statements (GHS US) :

H226 - Flammable liquid and vapor
H370 - Causes damage to organs
H400 - Very toxic to aquatic life

Precautionary statements (GHS US) :

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 - Keep container tightly closed.
P240 - Ground/Bond container and receiving equipment.
P241 - Use explosion-proof electrical/ventilating/lighting equipment.
P242 - Use only non-sparking tools.
P243 - Take precautionary measures against static discharge.
P260 - Do not breathe dust/fume/gas/mist/vapors/spray.
P261 - Avoid breathing dust, fume, gas, mist, vapors, spray.
P264 - Wash hands, forearms and face thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P271 - Use only outdoors or in a well-ventilated area.

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P273 - Avoid release to the environment.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352 - If on skin: Wash with plenty of water.
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.
P362+P364 - Take off contaminated clothing and wash it before reuse.
P370+P378 - In case of fire: Use media other than water to extinguish.
P391 - Collect spillage.
P403+P235 - Store in a well-ventilated place. Keep cool.
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

4.8% of the mixture consists of ingredient(s) of unknown acute toxicity (Oral)

26.9% of the mixture consists of ingredient(s) of unknown acute toxicity (Dermal)

8.9% of the mixture consists of ingredient(s) of unknown acute toxicity (Inhalation (Dust/Mist))

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS US classification
Methanol	CAS-No.: 67-56-1	10.15 – 32.7	Flam. Liq. 2, H225 Acute Tox. 4 (Oral), H302 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation), H331 STOT SE 1, H370
1,2-Ethanediol	CAS-No.: 107-21-1	10 – 30	Acute Tox. 4 (Inhalation:dust,mist), H332
Benzyl Alkyl Pyrdine	CAS-No.: 68909-18-2	0.8 – 8	Flam. Liq. 3, H226 Aquatic Acute 1, H400
2-Butoxyethanol	CAS-No.: 111-76-2	1 – 5	Flam. Liq. 4, H227 Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Inhalation:dust,mist), H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319
Quaternary ammonium compounds, benzyl-C12-16 alkyldimethyl, chlorides	CAS-No.: 68424-85-1	0.8 – 4.1	Acute Tox. 4 (Oral), H302 Aquatic Acute 1, H400

Full text of hazard classes and H-statements : see section 16

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SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general	: IF exposed or concerned: Get medical advice/attention. Call a poison center/doctor/physician if you feel unwell.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor/physician if you feel unwell.
First-aid measures after skin contact	: Rinse skin with water/shower. Remove/Take off immediately all contaminated clothing.
First-aid measures after eye contact	: Rinse eyes with water as a precaution.
First-aid measures after ingestion	: Call a poison center/doctor/physician if you feel unwell.

4.2. Most important symptoms and effects (acute and delayed)

No additional information available

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

5.2. Specific hazards arising from the chemical

Fire hazard : Flammable liquid and vapor.
Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Special protective equipment and precautions for fire-fighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. No open flames, no sparks, and no smoking. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with skin, eyes and clothing.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment : Collect spillage.
Methods for cleaning up : Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.
Other information : Dispose of materials or solid residues at an authorized site.

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6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Flammable vapors may accumulate in the container. Use explosion-proof equipment. Wear personal protective equipment. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Use only outdoors or in a well-ventilated area.

Hygiene measures : Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Ground/bond container and receiving equipment.

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

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

1,2-Ethandiol (107-21-1)

USA - ACGIH - Occupational Exposure Limits

Local name	Ethylene glycol
ACGIH OEL TWA [ppm]	25 ppm (Vapor fraction)
ACGIH OEL STEL	10 mg/m ³ (Inhalable fraction, Aerosol only)
ACGIH OEL STEL [ppm]	50 ppm (Vapor fraction)
Remark (ACGIH)	TLV® Basis: URT irr. Notations: A4 (Not classifiable as a Human Carcinogen)
Regulatory reference	ACGIH 2022

Methanol (67-56-1)

USA - ACGIH - Occupational Exposure Limits

Local name	Methanol
ACGIH OEL TWA [ppm]	200 ppm
ACGIH OEL STEL [ppm]	250 ppm
Remark (ACGIH)	TLV® Basis: Headache; eye dam; dizziness; nausea. Notations: Skin; BEI
Regulatory reference	ACGIH 2022

USA - ACGIH - Biological Exposure Indices

Local name	METHANOL
BEI	15 mg/l Parameter: Methanol - Medium: urine - Sampling time: End of shift - Notations: B, Ns
Regulatory reference	ACGIH 2022

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Methanol (67-56-1)

USA - OSHA - Occupational Exposure Limits

Local name	Methyl alcohol
OSHA PEL TWA [1]	260 mg/m ³
OSHA PEL TWA [2]	200 ppm
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.
Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Hand protection: Protective gloves

Eye protection: Safety glasses

Skin and body protection: Wear suitable protective clothing

Respiratory protection: Wear respiratory protection.

Personal protective equipment symbol(s):



SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid
Appearance : Clear.
Color : dark brown
Odor : slight
Odor threshold : No data available
pH : 5.5 – 6.4
Melting point : Not applicable
Freezing point : <-10 °F
Boiling point : No data available
Flash point : 89 °F
Relative evaporation rate (butyl acetate=1) : No data available
Flammability (solid, gas) : Not applicable.
Vapor pressure : No data available
Relative vapor density at 20 °C : No data available
Relative density : No data available
Density : 8.32 – 8.62
Solubility : No data available
Partition coefficient n-octanol/water (Log Pow) : No data available
Auto-ignition temperature : No data available
Decomposition temperature : No data available
Viscosity, kinematic : No data available
Viscosity, dynamic : No data available
Explosion limits : No data available

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Explosive properties : No data available
Oxidizing properties : No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Flammable liquid and vapor.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Harmful in contact with skin.
Acute toxicity (inhalation) : Harmful if inhaled.

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ATE US (dermal)	1056.867 mg/kg body weight
ATE US (dust, mist)	1.869 mg/l/4h
Unknown acute toxicity (GHS US)	4.8% of the mixture consists of ingredient(s) of unknown acute toxicity (Oral) 26.9% of the mixture consists of ingredient(s) of unknown acute toxicity (Dermal) 8.9% of the mixture consists of ingredient(s) of unknown acute toxicity (Inhalation (Dust/Mist))

1,2-Ethanediol (107-21-1)

LD50 oral rat	7712 mg/kg body weight (according to BASF-internal standards, Rat, Male / female, Experimental value, Aqueous solution, Oral, 7 day(s))
LD50 dermal	> 3500 mg/kg body weight (Mouse, Male / female, Experimental value, Dermal)
LC50 Inhalation - Rat	> 2.5 mg/l (6 h, Rat, Male / female, Experimental value, Inhalation (aerosol))
ATE US (oral)	7712 mg/kg body weight
ATE US (dust, mist)	1.5 mg/l/4h

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Methanol (67-56-1)	
LD50 oral rat	1187 – 2769 mg/kg body weight (BASF test, Rat, Male / female, Experimental value, Aqueous solution, Oral, 7 day(s))
LD50 dermal rabbit	300 mg/kg Source: ECHA
LC50 Inhalation - Rat	128 mg/l air (BASF test, 4 h, Rat, Male / female, Experimental value, Inhalation (vapours))
ATE US (oral)	1187 mg/kg body weight
ATE US (dermal)	300 mg/kg body weight
ATE US (gases)	700 ppmV/4h
ATE US (vapors)	3 mg/l/4h
ATE US (dust, mist)	0.5 mg/l/4h

2-Butoxyethanol (111-76-2)	
LD50 dermal rat	> 2000 mg/kg Source: ECHA
ATE US (oral)	500 mg/kg body weight
ATE US (dust, mist)	1.5 mg/l/4h

Quaternary ammonium compounds, benzyl-C12-16 alkyl dimethyl, chlorides (68424-85-1)	
LD50 oral rat	426 mg/kg Source: National Library of Medicine
ATE US (oral)	426 mg/kg body weight
Skin corrosion/irritation	: Not classified pH: 5.5 – 6.4

Methanol (67-56-1)	
pH	No data available in the literature
Serious eye damage/irritation	: Not classified pH: 5.5 – 6.4

2-Butoxyethanol (111-76-2)	
IARC group	3 - Not classifiable
Reproductive toxicity	: Not classified
STOT-single exposure	: Causes damage to organs.

Benzyl Alkyl Pyrdine (68909-18-2)	
Viscosity, kinematic	≈ 48 mm ² /s Temp.: 'other:' Parameter: 'kinematic viscosity (in mm ² /s)'

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Very toxic to aquatic life.

1,2-Ethandiol (107-21-1)	
LC50 - Fish [1]	> 72860 mg/l (EPA 600/4-90/027, 96 h, Pimephales promelas, Static system, Fresh water, Experimental value, Nominal concentration)
EC50 - Crustacea [1]	> 100 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, Daphnia magna, Static system, Fresh water, Experimental value)
EC50 96h - Algae [1]	6500 – 13000 mg/l Source: ECHA

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1,2-Ethanediol (107-21-1)

NOEC (chronic)	≥ 1000 mg/l Test organisms (species): Americamysis bahia (previous name: Mysidopsis bahia) Duration: '23 d'
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Methanol (67-56-1)

LC50 - Fish [1]	15400 mg/l (EPA 660/3 - 75/009, 96 h, Lepomis macrochirus, Flow-through system, Fresh water, Experimental value, Lethal)
EC50 - Crustacea [1]	18260 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 96 h, Daphnia magna, Semi-static system, Fresh water, Experimental value, Locomotor effect)
EC50 96h - Algae [1]	22000 mg/l (OECD 201: Alga, Growth Inhibition Test, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, Growth rate)

2-Butoxyethanol (111-76-2)

LC50 - Fish [1]	1474 mg/l Source: ECHA
EC50 - Crustacea [1]	1800 mg/l Source: ECHA
EC50 72h - Algae [1]	911 mg/l Source: ECHA

Benzyl Alkyl Pyrdine (68909-18-2)

LC50 - Fish [1]	14.1 mg/l Test organisms (species): Cyprinodon variegatus
EC50 - Crustacea [1]	3.1 mg/l Source: ECHA Chem
EC50 72h - Algae [1]	0.47 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
EC50 72h - Algae [2]	0.16 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
EC50 96h - Algae [1]	0.16 mg/l Source: ECHA Chem

Quaternary ammonium compounds, benzyl-C12-16 alkyl dimethyl, chlorides (68424-85-1)

LC50 - Fish [1]	0.51 mg/l Source: The ECOTOXicology database
EC50 - Crustacea [1]	0.0059 mg/l Source: The ECOTOXicology database
EC50 96h - Algae [1]	4.813 mg/l Source: Ecological Structure Activity Relationships

12.2. Persistence and degradability

1,2-Ethanediol (107-21-1)

Persistence and degradability	Biodegradable in the soil. Readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.47 g O ₂ /g substance
Chemical oxygen demand (COD)	1.24 g O ₂ /g substance
ThOD	1.29 g O ₂ /g substance

Methanol (67-56-1)

Persistence and degradability	Readily biodegradable in the soil. Readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.6 – 1.12 g O ₂ /g substance
Chemical oxygen demand (COD)	1.42 g O ₂ /g substance
ThOD	1.5 g O ₂ /g substance

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12.3. Bioaccumulative potential

1,2-Ethanediol (107-21-1)

Partition coefficient n-octanol/water (Log Pow) -1.36 (Experimental value)

Bioaccumulative potential Not bioaccumulative.

Methanol (67-56-1)

BCF - Fish [1] 1 – 4.5 (72 h, Cyprinus carpio, Static system, Fresh water, Experimental value)

Partition coefficient n-octanol/water (Log Pow) -0.77 (Experimental value)

Bioaccumulative potential Low potential for bioaccumulation (BCF < 500).

2-Butoxyethanol (111-76-2)

Partition coefficient n-octanol/water (Log Pow) 0.81 Source: ECHA

Benzyl Alkyl Pyrdine (68909-18-2)

Partition coefficient n-octanol/water (Log Pow) 0.3 – 3.93 Source: ECHA Chem

Quaternary ammonium compounds, benzyl-C12-16 alkyldimethyl, chlorides (68424-85-1)

Partition coefficient n-octanol/water (Log Pow) 3.91 Source: Quantitative Structure Activity Relation

12.4. Mobility in soil

1,2-Ethanediol (107-21-1)

Mobility in soil 0.2 Source: HSDB

Surface tension 48.4 mN/m (20 °C)

Ecology - soil Highly mobile in soil.

Methanol (67-56-1)

Mobility in soil 2.75 Source: HSDB

Surface tension No data available in the literature

Organic Carbon Normalized Adsorption Coefficient (Log Koc) -0.89 – -0.21 (log Koc, Calculated value)

Ecology - soil Highly mobile in soil.

Benzyl Alkyl Pyrdine (68909-18-2)

Mobility in soil 17.7827941 – 251188.64315096 Source: ECHA Chem

Quaternary ammonium compounds, benzyl-C12-16 alkyldimethyl, chlorides (68424-85-1)

Mobility in soil 1002 Source: EPI Suite

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods




Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.
Additional information : Flammable vapors may accumulate in the container.

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SECTION 14: Transport information

DOT	IMDG	IATA
14.1. UN number		
1993	1993	1993
14.2. Proper Shipping Name		
Flammable liquids, n.o.s. (Methanol)	FLAMMABLE LIQUID, N.O.S. (Methanol)	Flammable liquid, n.o.s. (Methanol)
14.3. Transport hazard class(es)		
3	3	3
		
14.4. Packing group		
III	III	III
14.5. Environmental hazards		
Dangerous for the environment: Yes	Dangerous for the environment: Yes Marine pollutant: Yes	Dangerous for the environment: Yes
No supplementary information available		

14.6. Special precautions for user

DOT
UN-No.(DOT) : UN1993
DOT Packaging Exceptions (49 CFR 173.xxx) : 150
DOT Packaging Non Bulk (49 CFR 173.xxx) : 203
DOT Packaging Bulk (49 CFR 173.xxx) : 242
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 60 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 220 L
DOT Vessel Stowage Location : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.

IMDG
Special provision (IMDG) : 223, 274, 955
Limited quantities (IMDG) : 5 L
Excepted quantities (IMDG) : E1
Packing instructions (IMDG) : LP01, P001
IBC packing instructions (IMDG) : IBC03
Tank instructions (IMDG) : T4
Tank special provisions (IMDG) : TP1, TP29
EmS-No. (Fire) : F-E - FIRE SCHEDULE Echo - NON-WATER-REACTIVE FLAMMABLE LIQUIDS
EmS-No. (Spillage) : S-E - SPILLAGE SCHEDULE Echo - FLAMMABLE LIQUIDS, FLOATING ON WATER
Stowage category (IMDG) : A

IATA
PCA Excepted quantities (IATA) : E1
PCA Limited quantities (IATA) : Y344
PCA limited quantity max net quantity (IATA) : 10L

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PCA packing instructions (IATA)	: 355
PCA max net quantity (IATA)	: 60L
CAO packing instructions (IATA)	: 366
CAO max net quantity (IATA)	: 220L
Special provision (IATA)	: A3
ERG code (IATA)	: 3L

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory, except for:

1,2-Ethanediol	CAS-No. 107-21-1	10 – 30%
2-Butoxyethanol	CAS-No. 111-76-2	1 – 5%
Benzyl Alkyl Pyrdine	CAS-No. 68909-18-2	0.8 – 8%
Quaternary ammonium compounds, benzyl-C12-16 alkyldimethyl, chlorides	CAS-No. 68424-85-1	0.8 – 4.1%

Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

Methanol	CAS-No. 67-56-1	10.15 – 32.7%
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Methanol (67-56-1)

Listed on EPA Hazardous Air Pollutant (HAPS)

CERCLA RQ	5000 lb
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15.2. International regulations

CANADA

Methanol (67-56-1)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

Methanol (67-56-1)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

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15.3. US State regulations



WARNING:

This product can expose you to Methanol, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

SECTION 16: Other information

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Full text of H-phrases

H226	Flammable liquid and vapor
H370	Causes damage to organs
H400	Very toxic to aquatic life

Safety Data Sheet (SDS), USA