

Ethanol SIS D1 200 Proof

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

Trade name	Ethanol SIS D1 200 Proof	
Synonyms	Formula SIS D1/ Denatured Alcohol	
Use	Industrial use	
Company	Sasol Chemicals (USA) LLC (an affiliate of Sasol Chemicals North America LLC)	
Address	12120 Wickchester Lane Houston TX 77079	
Telephone	CHEMTREC North America Transportation Emergency (24-hr)	(800) 424-9300
	CHEMTREC World Wide	(703) 527-3887
	Other Emergencies (24-hr)	(337) 494-5142
	MSDS and Product Information (8:00am-4:30pm CST)	(281) 588-3491
	Health and Safety Information (7:30am-4:00pm CST)	(281) 588-3492
E-mail address	SasolElectronicSDS@us.sasol.com	

SECTION 2 HAZARDS IDENTIFICATION

GHS Hazards

Flammable liquids	Category 2
Eye irritation	Category 2A
Acute toxicity (Oral)	Category 4
Acute toxicity (Inhalation)	Category 4
Acute toxicity (Dermal)	Category 4
Carcinogenicity	Category 2

LABEL ELEMENTS**Hazard symbols****Signal word** Danger

Hazard statements	H225 Highly flammable liquid and vapour.
	H319 Causes serious eye irritation.
	H302 Harmful if swallowed.
	H312 Harmful in contact with skin.
	H332 Harmful if inhaled.
	H351 Suspected of causing cancer.

Precautionary statements

Ethanol SIS D1 200 Proof

- Prevention**
- P210 Keep away from heat/sparks/open flames/hot surfaces. 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.
 - P280 Wear protective gloves/ eye protection/ face protection.
 - P264 Wash skin thoroughly after handling.
 - P270 Do not eat, drink or smoke when using this product.
 - P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
 - P271 Use only outdoors or in a well-ventilated area.
 - P201 Obtain special instructions before use.
 - P202 Do not handle until all safety precautions have been read and understood.
- Response**
- P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
 - P370 + P378 In case of fire: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide for extinction.
 - P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 - P337 + P313 If eye irritation persists: Get medical advice/ attention.
 - P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell.
 - P330 Rinse mouth.
 - P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
 - P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
 - P312 Call a POISON CENTER or doctor/ physician if you feel unwell.
 - P362 Take off contaminated clothing and wash before reuse.
 - P308 + P313 IF exposed or concerned: Get medical advice/ attention.
- Storage**
- P403 + P405 + P235 Store locked up in a well-ventilated place. Keep cool.
- Disposal**
- P501 Dispose of contents/ container to an approved waste disposal plant.

SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS

<u>Components</u>	<u>CAS-No.</u>	<u>Weight percent</u>
Ethanol	64-17-5	82
2-Propanol	67-63-0	13
Methanol	67-56-1	4
Methyl isobutyl ketone	108-10-1	1

See Section 8 for Exposure Guidelines and Section 15 for Regulatory Classifications.

Ethanol SIS D1 200 Proof

SECTION 4 FIRST AID MEASURES

- Eye contact** Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
- Skin contact** Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. When symptoms persist or in all cases of doubt seek medical advice. Wash contaminated clothing before re-use.
- Inhalation** Remove to fresh air. If breathing is irregular or stopped, administer artificial respiration. In case of shortness of breath, give oxygen. Call a physician immediately.
- Ingestion** If swallowed, call a poison control centre or doctor immediately. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person.

SECTION 5 FIREFIGHTING MEASURES

FLAMMABLE PROPERTIES

Fire/explosion Flash back possible over considerable distance. NFPA Class IB flammable liquid.

Suitable extinguishing media Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Protective equipment and precautions for firefighters Wear self-contained breathing apparatus and protective suit. Keep containers and surroundings cool with water spray.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Methods and materials for containment and cleaning up Evacuate personnel to safe areas. Remove all sources of ignition. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Do not flush into surface water or sanitary sewer system.

Spill precautions Material can create slippery conditions.

SECTION 7 HANDLING AND STORAGE

Safe handling advice Ensure all equipment is electrically grounded before beginning transfer operations. Keep away from heat and sources of ignition.

Storage/Transport temperature Ambient

Load/Unload temperature Ambient

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Ethanol SIS D1 200 Proof

ENGINEERING MEASURES

Ensure adequate ventilation, especially in confined areas.

PERSONAL PROTECTIVE EQUIPMENT

Eyes Chemical resistant goggles must be worn., Face-shield

Skin Wear suitable protective clothing, gloves and eye/face protection.

Inhalation Respiratory protection is normally not required except in emergencies or when conditions cause excessive airborne levels of mists or vapors. Use NIOSH approved respiratory protection.

EXPOSURE GUIDELINES

<u>Components</u>	<u>Exposure limit(s)</u>
Ethanol	ACGIH STEL 1,000 ppm OSHA PEL 1,000 ppm 1,900 mg/m ³
2-Propanol	OSHA PEL 400 ppm 980 mg/m ³ ACGIH TLV (8-hour) 200 ppm ACGIH STEL 400 ppm
Methanol	OSHA PEL 200 ppm 260 mg/m ³ ACGIH TLV (8-hour) 200 ppm ACGIH STEL 250 ppm
Methyl isobutyl ketone	OSHA PEL 100 ppm 410 mg/m ³ ACGIH TLV (8-hour) 20 ppm ACGIH STEL 75 ppm

PEL= Permissible Exposure Limits
TLV= Threshold Limit Value
EL= Excursion Limit

TWA= Time Weighted Average (8 hr.)
STEL= Short Term Exposure Limit (15 min.)
WEEL= Workplace Environmental Exposure Level

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance liquid;

Colour clear

Form liquid

Odour alcohol-like

Odour Threshold no data available

Flash point 13 °C, 55.4 °F;

Flammability Upper explosion limit: 20.0 %(V)
Lower explosion limit: 4.0 %(V)

Ethanol SIS D1 200 Proof

Boiling point/boiling range	74 - 80 °C, 165.2 - 176 °F;
Melting point/range	ca. > -114 °C, > -173 °F; Ethanol
Auto-ignition temperature	ca. 400 °C, 752 °F; ASTM D 2155;
Decomposition temperature	no data available
Flammability (solid, gas)	no data available
Vapour pressure	ca. 66.661 hPa @ 20 °C, 68 °F;
Vapour density	no data available
Density	6.607 lb/gal @ 15.5 °C, 60 °F; ASTM D-4052;
Specific gravity	0.7932 @ 15.5 °C, 60 °F;
Water solubility	completely soluble
Viscosity	no data available
pH	no data available
Evaporation rate	no data available
Partition coefficient: n-octanol/water	no data available

SECTION 10 STABILITY AND REACTIVITY

Reactivity	Stable at normal ambient temperature and pressure.
Chemical stability	No decomposition if stored and applied as directed.
Conditions to avoid	Keep away from heat and sources of ignition.
Hazardous decomposition products	Combustion products include carbon dioxide, carbon monoxide and possibly other unidentified organic compounds.
Materials to avoid	Can react with strong oxidizers, inorganic acids, and halogens.
Hazardous polymerisation	None.

Ethanol SIS D1 200 Proof

SECTION 11 TOXICOLOGICAL INFORMATION

Acute dermal toxicity LD50 Rabbit: > 2,000 mg/kg; OECD Test Guideline 402
Test substance: Ethanol; (literature value)

LD50 Rabbit: > 2,000 mg/kg
Test substance: Isopropanol; (literature value)

LD50 Rabbit: > 200 - 1,000 mg/kg
Test substance: Methanol

LD50 Rabbit: > 2,000 mg/kg
Test substance: MIBK; (literature value)

Acute inhalation toxicity LC50 Mouse (4 hours): > 20 mg/l
Test substance: Ethanol; (literature value)

LC50 Rat (8 hours): > 20 mg/l
Test substance: Isopropanol; (literature value)

LC50 Rat: > 2 - 10 mg/l
Test substance: Methanol

LC50 Rat (4 hours): > 10 - 20 mg/l
Test substance: MIBK; (literature value)

Acute oral toxicity LD50 Rat: 2,000 mg/kg; OECD Test Guideline 401
Test substance: Ethanol; (literature value)

LD50 Rat: > 2,000 mg/kg
Test substance: Isopropanol; (literature value)

LD50 Rat: > 50 - 300 mg/kg
Test substance: Methanol

LD50 Rat: > 2,000 mg/kg
Test substance: MIBK; (literature value)

Skin corrosion/irritation (Rabbit): OECD Test Guideline 404
Test substance: Ethanol
Not irritating, (literature value)

(Rabbit)
Test substance: Isopropanol
Not irritating, (literature value)

Test substance: Methanol
irritating

(Rabbit)
Test substance: MIBK
slight irritation, (literature value)

Ethanol SIS D1 200 Proof

Eye damage/irritation (Rabbit): OECD Test Guideline 405
Test substance: Ethanol
irritating, (literature value)

(Rabbit)
Test substance: Isopropanol
irritating, (literature value)

(Rabbit)
Test substance: MIBK
irritating, (literature value)

Respiratory or skin sensitization Guinea pig: not sensitizing; Maximisation Test (GPMT)
Ethanol, (literature value)

Guinea pig: not sensitizing; Buehler Test
Isopropanol, (literature value)

Guinea pig: not sensitizing; Maximisation Test (GPMT)
MIBK, (literature value)

Germ cell mutagenicity **Genotoxicity in vitro:**
Type: Ames test; OECD Test Guideline 471
System: Salmonella typhimurium; with and without metabolic activation
Result: In vitro tests did not show mutagenic effects
Test substance: Ethanol
(literature value)
Type: Ames test
System: Salmonella typhimurium; with and without metabolic activation
Result: In vitro tests did not show mutagenic effects
Test substance: Isopropanol
(literature value)
Type: Ames test
System: Salmonella typhimurium; with and without metabolic activation
Result: In vitro tests did not show mutagenic effects
Test substance: MIBK
(literature value)

Genotoxicity in vivo:
no data available

Assessment Mutagenicity:
Based on available data, the classification criteria are not met.

Reproductive toxicity **Reproductive toxicity:**
no data available

Assessment Reproductive toxicity:
no data available

Teratogenicity:
no data available

Assessment teratogenicity:

Ethanol SIS D1 200 Proof

no data available

STOT - single exposure The substance or mixture is not classified as specific target organ toxicant, single exposure.

STOT - repeated exposure Rat; Oral; 90-day;
NOAEL: 1,730 mg/kg
LOAEL: 3,160 mg/kg
Test substance: Ethanol
Based on available data, the classification criteria are not met.

Rat; Oral; 90-day;
NOAEL: 1,730 mg/kg
LOAEL: 3,160 mg/kg
Test substance: Isopropanol
Based on available data, the classification criteria are not met.

Aspiration toxicity no data available

Carcinogenicity **Assessment carcinogenicity:**
Suspected of causing cancer.

Carcinogenicity ratings

Methyl isobutyl ketone
IARC Group 2B: Possibly carcinogenic to humans

SECTION 12 ECOLOGICAL INFORMATION

Toxicity to fish LC50 (Pimephales promelas (fathead minnow)) 96 hours: > 100 mg/l; flow-through test
Test substance: Ethanol
(literature value)

LC50 (Pimephales promelas (fathead minnow)) 96 hours: > 100 mg/l; flow-through test
Test substance: Isopropanol
(literature value)

LC50 (Danio rerio (zebra fish)) 96 hours: > 100 mg/l; static test
Test substance: MIBK
(literature value)

Toxicity to aquatic invertebrates EC50 (Ceriodaphnia dubia (water flea)) 48 hours: > 100 mg/l; static test
Test substance: Ethanol
(literature value)

EC50 (Daphnia magna (Water flea)) 24 hours: > 100 mg/l; static test
Test substance: Isopropanol
(literature value)

EC50 (Daphnia magna (Water flea)) 48 hours: > 100 mg/l; static test
Test substance: MIBK
(literature value)

Ethanol SIS D1 200 Proof

Toxicity to algae EC50 (*Chlorella vulgaris*) 72 hours: > 100 mg/l; static test; OECD Test Guideline 201
Test substance: Ethanol
(literature value)

EC50 (*Scenedesmus quadricauda* (Green algae)) 7 d: > 100 mg/l; static test
Test substance: Isopropanol
(literature value)

Test substance: MIBK
no data available

Chronic toxicity to fish no data available

Chronic toxicity to aquatic invertebrates NOEC (*Ceriodaphnia dubia* (water flea)) 10 d: 9.6 mg/l; semi-static test
Test substance: Ethanol
(literature value)

NOEC (*Daphnia magna* (Water flea)) 21 d: > 10 - 100 mg/l; semi-static test; OECD Test Guideline 211
Test substance: MIBK
(literature value)

Biodegradation Readily biodegradable

OECD Test Guideline 301B (28 d): > 60 %
Test substance: Ethanol
(literature value)

BOD5 (5 d): 53 %
Test substance: Isopropanol
(literature value)

OECD Test Guideline 301F (28 d): > 60 %
Test substance: MIBK
(literature value)

Bioaccumulation Test substance: Ethanol
No bioaccumulation is to be expected (log Pow <= 4).

Test substance: Isopropanol
No bioaccumulation is to be expected (log Pow <= 4).

Test substance: MIBK
No bioaccumulation is to be expected (log Pow <= 4).

Mobility in soil no data available

Other adverse effects no data available

Ethanol SIS D1 200 Proof

SECTION 13 DISPOSAL CONSIDERATIONS

- Waste Code** D001 - Ignitability (RQ 100 LB). This product has the RCRA characteristic of ignitability. Re-evaluation of the product may be required by the user at the time of disposal, since the product uses, transformations, mixtures, contamination, and spillage may change the classification.
- Disposal methods** Dispose of only in accordance with local, state, and federal regulations. Do not contaminate any lakes, streams, ponds, groundwater or soil.
- Empty containers.** Empty containers retain product residue (liquid and/or vapor) and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Empty drums should be completely drained, triple-rinsed, properly bunged and promptly returned to a drum reconditioner, or properly disposed.

SECTION 14 TRANSPORT INFORMATION

- DOT** UN 1987, Alcohols, n.o.s. (ethanol, isopropanol), 3, II (RQ Methanol) When shipped in quantities greater than 125,000 lbs, RQ must be added to the shipping description.
- IATA** UN 1987, Alcohols, n.o.s. (ethanol, isopropanol), 3, II (RQ Methanol) When shipped in quantities greater than 125,000 lbs, RQ must be added to the shipping description.
- IMDG** UN 1987, Alcohols, n.o.s. (ethanol, isopropanol), 3, II (RQ Methanol) When shipped in quantities greater than 125,000 lbs, RQ must be added to the shipping description.

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

Remarks no data available

SECTION 15 REGULATORY INFORMATION**U.S. FEDERAL REGULATIONS****OSHA Hazards (HCS 1994)**

Flammable liquid, Eye irritant

TSCA Inventory Listing**Components**

Ethanol

2-Propanol

Methanol

2-Pentanone, 4-methyl-

CAS-No.

64-17-5

67-63-0

67-56-1

108-10-1

SARA 302 Status

Ethanol SIS D1 200 Proof

Components**CAS-No.****Weight percent**

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 311/312 Classification

"Fire hazard", "Immediate (acute) health hazard", "Delayed (chronic) health hazard"

SARA 313 Chemical**Components****CAS-No.****Weight percent**

2-Propanol

67-63-0

13 %

Methanol

67-56-1

4 %

2-Pentanone, 4-methyl-

108-10-1

1 %

US. EPA CERCLA Hazardous Substances (40 CFR 302)**Components****Reportable Quantity****Weight percent**

Methanol

5,000 LB

4 %

2-Pentanone, 4-methyl-

5,000 LB

1 %

INTERNATIONAL REGULATIONS**WHMIS Classification**

Class B, Division 2: Flammable liquid.

Class D, Division 2, Subdivision A: Very toxic material

Class D, Division 2, Subdivision B: Toxic material.

European Union

Classification according to Regulation (EU) 1272/2008.

Flammable liquids, Category 2

Eye irritation, Category 2

Acute toxicity (Oral), Category 4

Acute toxicity (Inhalation), Category 4

Acute toxicity (Dermal), Category 4

Carcinogenicity, Category 2

Australia. Inventory of Chemical Substances (AICS) Listed

Japan. Inventory of Existing and New Chemical Substances (ENCS) Listed

Japan. Industrial Safety & Health Law (ISHL) Inventory Listed

Canada. Domestic Substances List (DSL) Inventory Listed

Canadian Non-Domestic Substance Listing (NDSL) Not listed

European Inventory of Existing Commercial Chemical Substances (EINECS) Listing Listed

Philippines. Inventory of Chemicals / Chemical Substances (PICCS) Listed

Korea. Existing Chemicals Inventory (KECI) Listed

China. Inventory of Existing Chemical Substances (IECSC) Listed

Ethanol SIS D1 200 Proof

Mexico. National Inventory of Chemical Substances (INSQ)	Listed
New Zealand. Inventory of Chemicals (NZIoC)	Listed
Switzerland. Inventory of Notified New Substances (CHINV)	Listed
Taiwan. National Existing Chemical Inventory (NECI)	Listed

Please note: The names and CAS numbers which are used for this product in the stated inventories may deviate from the information which is listed in Section 3.

STATE REGULATIONS

California Prop. 65

Components

Methanol

2-Pentanone, 4-methyl-

CAS-No.

67-56-1

108-10-1

SECTION 16 OTHER INFORMATION

HAZARD RATINGS

	<u>Health</u>	<u>Flammability</u>	<u>Physical Hazard/ Instability</u>
HMIS®	2	3	0
NFPA	2	3	0

THE DATA AND INFORMATION CONTAINED HEREIN ARE BEING FURNISHED FOR INFORMATIONAL PURPOSES ONLY, UPON THE EXPRESS CONDITION THAT EACH CUSTOMER SHALL MAKE ITS OWN ASSESSMENT OF APPROPRIATE USE AND APPROPRIATE SHIPPING, TRANSFER AND STORAGE MATERIALS AND PROCEDURES FOR SASOL CHEMICALS (USA) LLC'S PRODUCTS. ALTHOUGH BASED ON INFORMATION SOURCES WHICH SASOL CHEMICALS (USA) LLC CONSIDERS ACCURATE AND RELIABLE, SASOL CHEMICALS (USA) LLC MAKES NO WARRANTY, EITHER EXPRESS OR IMPLIED, INCLUDING ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, REGARDING THE VALIDITY OF THIS INFORMATION, THE INFORMATION SOURCES UPON WHICH THE SAME ARE BASED, OR THE RESULTS TO BE OBTAINED, AND EXPRESSLY DISCLAIMS LIABILITIES FOR DAMAGES OR INJURIES RESULTING FROM THE USE THEREOF.
