


Ethanol SOF 672 200 Proof
SECTION 1 IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Trade name Ethanol SOF 672 200 Proof
Synonyms SOF 672 Duplicating Fluid / Denatured Alcohol
Use Industrial use, Inks and Printing, Paint and Coatings, Raw material for chemical processes, Raw material for industry, Solvent
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

LABEL ELEMENTS
Hazard symbols


Signal word Danger

Hazard statements H225 Highly flammable liquid and vapour.
 H319 Causes serious eye irritation.

Precautionary statements

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.



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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.

Storage P403 + P235 Store 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	90.5
Propyl Acetate	109-60-4	5
2-Propanol	67-63-0	4.5

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

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 Water spray, Alcohol-resistant foam, Dry chemical, Carbon dioxide (CO₂)

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

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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 pressure** Ambient
- Load/Unload temperature** Ambient

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING MEASURES

Ensure adequate ventilation, especially in confined areas.

PERSONAL PROTECTIVE EQUIPMENT

Eyes Wear as appropriate: Goggles, 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

Propyl Acetate	OSHA PEL 200 ppm 840 mg/m ³ ACGIH TLV (8-hour) 200 ppm ACGIH STEL 250 ppm
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2-Propanol	OSHA PEL 400 ppm 980 mg/m ³ ACGIH TLV (8-hour) 200 ppm ACGIH STEL 400 ppm
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PEL= Permissible Exposure Limits

TWA= Time Weighted Average (8 hr.)

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TLV= Threshold Limit Value
EL= Excursion LimitSTEL= 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)
Boiling point/boiling range	74 - 80 °C, 165.2 - 176 °F;
Melting point/range	-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	0.80 g/cm ³ @ 15.5 °C, 60 °F;
Specific gravity	no data available
Water solubility	completely soluble
Viscosity	no data available
pH	no data available
Evaporation rate	no data available

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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.

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 rat: > 2,000 mg/kg
Test substance: Propyl Acetate; (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)
- 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: > 2,000 mg/kg
Test substance: Propyl Acetate; (literature value)
- Skin corrosion/irritation** (rabbit): OECD Test Guideline 404
Test substance: Ethanol
Not irritating, (literature value)
- (rabbit)

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Test substance: Isopropanol
Not irritating, (literature value)

(rabbit)
Test substance: Propyl Acetate
slight irritation, (literature value)

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

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

(rabbit)
Test substance: Propyl Acetate
irritating, (literature value)

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

guinea pig: not sensitizing; Buehler Test
Isopropanol, (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)

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:
no data available



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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:**
 Contains no ingredient listed as a carcinogen

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 (Pimephales promelas (fathead minnow)) 96 hours: > 10 - 100 mg/l; static test
 Test substance: Propyl Acetate
 (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: > 10 - 100 mg/l; static test
 Test substance: Propyl Acetate
 (literature value)

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

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Test substance: Isopropanol
(literature value)

EC50 (Pseudokirchneriella subcapitata (green algae)) 72 hours: > 100 mg/l; static test
Test substance: Propyl Acetate
(literature value)

Chronic toxicity to aquatic invertebrates NOEC (Ceriodaphnia Dubia (water flea)) 10 d: 9.6 mg/l; semi-static test
Test substance: Ethanol
(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 301D (20 d): > 60 %
Test substance: Propyl Acetate
(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).

Mobility in soil no data available

Other adverse effects no data available

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.


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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 1170, Ethanol solutions, 3, II

IATA UN 1170, Ethanol solutions, 3, II

IMDG UN 1170, Ethanol solutions, 3, II

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 irritation, Skin irritation

TSCA Inventory Listing
Components

Ethanol

Acetic acid, propyl ester

2-Propanol

CAS-No.

64-17-5

109-60-4

67-63-0

SARA 302 Status
Components
CAS-No.
Weight percent

SARA 302: 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"

SARA 313 Chemical
Components

2-Propanol

CAS-No.

67-63-0

Weight percent

4.5 %

US. EPA CERCLA Hazardous Substances (40 CFR 302)
Components

none

Reportable Quantity
Weight percent

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INTERNATIONAL REGULATIONS

WHMIS Classification

Class B, Division 2: Flammable liquid.
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

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
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

none

CAS-No.

SECTION 16

OTHER INFORMATION

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HAZARD RATINGS

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

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