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## SECTION 2. HAZARDS IDENTIFICATION

**GHS Classification**  
 Flammable liquids : Category 3  
 Eye irritation : Category 2A

**GHS Label element**  
 Hazard pictograms :



Warning

Signal Word : H226 Flammable liquid and vapor.

Hazard Statements :

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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.  
 P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.  
 P242 Use only non-sparking tools.  
 P243 Take precautionary measures against static discharge.  
 P264 Wash skin thoroughly after handling.  
 P280 Wear protective gloves/ eye protection/ face protection.  
**Response:**  
 P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. 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.

### Other hazards

Vapors may form explosive mixture with air.

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### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

#### Hazardous ingredients

Chemical Name	CAS-No.	Concentration (%)
Ethanol	64-17-5	>= 50 - < 70
Propan-2-ol	67-63-0	>= 1 - < 5

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### SECTION 4. FIRST AID MEASURES

General advice :  
In the case of accident or if you feel unwell, seek medical advice immediately.  
When symptoms persist or in all cases of doubt seek medical advice.

If inhaled :  
If inhaled, remove to fresh air.

In case of skin contact :  
Get medical attention if symptoms occur.  
:  
Wash with water and soap as a precaution.  
Get medical attention if symptoms occur.

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In case of eye contact : In case of contact, immediately flush eyes with plenty of water for at least 15 minutes.  
If easy to do, remove contact lens, if worn.  
Get medical attention.

If swallowed : If swallowed, DO NOT induce vomiting.  
Get medical attention if symptoms occur.  
Rinse mouth thoroughly with water.

Most important symptoms and effects, both acute and delayed : Causes serious eye irritation.

Protection of first-aiders : First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists.

Notes to physician : Treat symptomatically and supportively.

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### SECTION 5. FIRE-FIGHTING MEASURES

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Suitable extinguishing media	: Water spray Alcohol-resistant foam Dry chemical Carbon dioxide (CO <sub>2</sub> )
Unsuitable extinguishing media	: High volume water jet
Specific hazards during fire fighting	: Do not use a solid water stream as it may scatter and spread fire. Flash back possible over considerable distance. Vapors may form explosive mixtures with air. Exposure to combustion products may be a hazard to health.
Hazardous combustion products	: Carbon oxides
Specific extinguishing methods	: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray to cool unopened containers. Remove undamaged containers from fire area if it is safe to do so. Evacuate area.
Special protective equipment for fire-fighters	: In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.

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## SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, : Remove all sources of ignition.



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protective equipment and emergency procedures	Use personal protective equipment. Follow safe handling advice and personal protective equipment recommendations.
Environmental precautions	: Discharge into the environment must be avoided. Prevent further leakage or spillage if safe to do so. Prevent spreading over a wide area (e.g. by containment or oil barriers). Retain and dispose of contaminated wash water. Local authorities should be advised if significant spillages cannot be contained.
Methods and materials for containment and cleaning up	: Non-sparking tools should be used. Soak up with inert absorbent material. Suppress (knock down) gases/vapors/mists with a water spray jet. For large spills, provide diking or other appropriate containment to keep material from spreading. If diked material can be pumped, store recovered material in appropriate container. Clean up remaining materials from spill with suitable absorbent. Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable. Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

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## SECTION 7. HANDLING AND STORAGE

Technical measures	: See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.
Local/Total ventilation	: Use with local exhaust ventilation. Use only in an area equipped with explosion proof exhaust ventilation.
Advice on safe handling	: Do not breathe vapors or spray mist. Do not swallow.
Conditions for safe storage Do not get in eyes. Avoid prolonged or repeated contact with skin. Handle in	accordance with good industrial hygiene and safety practice. Non-sparking tools should be used. Keep container tightly closed. Keep away from heat and sources of ignition.



Take precautionary measures against static discharges. Take care to prevent spills, waste and

minimize release to the environment.

- : Keep in properly labeled containers. Keep tightly closed.
- Keep in a cool, well-ventilated place.
- Store in accordance with the particular national regulations.
- Keep away from heat and sources of ignition.

Materials to avoid

- : Do not store with the following product types:
  - Strong oxidizing agents
  - Organic peroxides
  - Flammable solids
  - Pyrophoric liquids
  - Pyrophoric solids
  - Self-heating substances and mixtures
  - Substances and mixtures which in contact with water emit flammable gases
  - Explosives
  - Gases

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Ingredients with workplace control parameters

Ingredients	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis	
Ethanol	64-17-5	TWA	1,000 ppm 1,900 mg/m <sup>3</sup>	NIOSH REL	
			TWA	1,000 ppm 1,900 mg/m <sup>3</sup>	OSHA Z-1
			STEL	1,000 ppm	ACGIH
Propan-2-ol	67-63-0	TWA	200 ppm	ACGIH	
			STEL	400 ppm	ACGIH
			TWA	400 ppm 980 mg/m <sup>3</sup>	NIOSH REL
		ST	500 ppm 1,225 mg/m <sup>3</sup>	NIOSH REL	
		TWA	400 ppm 980 mg/m <sup>3</sup>	OSHA Z-1	

### Biological occupational exposure limits

Ingredients	CAS-No.	Control parameters	Biological specimen	Sampling time	Permissible concentration	Basis



Propan-2-ol	67-63-0	Acetone	Urine	End of shift at end of workweek	40 mg/l	ACGIH BEI
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**Engineering measures** : Minimize workplace exposure concentrations.  
 Use only in an area equipped with explosion proof exhaust ventilation.  
 Use with local exhaust ventilation.

**Personal protective equipment**

**Respiratory protection** : General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.

**Hand protection**

**Material** : Impervious gloves

**Material** : Flame retardant gloves

**Remarks**

: Choose gloves to protect hands against chemicals depending on the concentration specific to place of work. Breakthrough time is not determined for the product. Change gloves often! For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Wash hands before breaks and at the end of workday.

**Eye protection**

: Wear the following personal protective equipment:  
 Safety goggles

**Skin and body protection**

: Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential.  
 Wear the following personal protective equipment:  
 Flame retardant antistatic protective clothing.  
 Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc).



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Hygiene measures : Ensure that eye flushing systems and safety showers are located close to the working place.  
When using do not eat, drink or smoke.  
Wash contaminated clothing before re-use.

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## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

Color : clear, Colorless to pale yellow

Odor : citrus

Odor Threshold : No data available

pH : 6.5 - 8.5

Melting point/freezing point : No data available

Initial boiling point and boiling range : 70 °C

Flash point : 25 °C

Evaporation rate : No data available

Flammability (solid, gas) : Not applicable

Upper explosion limit : No data available

Lower explosion limit : No data available

Vapor pressure : No data available

Relative vapor density : No data available

Density : 0.8750 g/cm<sup>3</sup>

Solubility(ies)

    Water solubility : soluble

Partition coefficient: noctanol/water : Not applicable

Autoignition temperature : No data available





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Decomposition temperature	: The substance or mixture is not classified self-reactive.
Viscosity	
Viscosity, kinematic	: 3,500 - 23,000 mm <sup>2</sup> /s (20 °C)
Explosive properties	: Not explosive
Oxidizing properties	: The substance or mixture is not classified as oxidizing.

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## SECTION 10. STABILITY AND REACTIVITY

Reactivity	: Not classified as a reactivity hazard.
Chemical stability	: Stable under normal conditions.
Possibility of hazardous reactions	: Flammable liquid and vapor. Vapors may form explosive mixture with air. Can react with strong oxidizing agents.
Conditions to avoid	: Heat, flames and sparks.
Incompatible materials	: Oxidizing agents
Hazardous decomposition products	: No hazardous decomposition products are known.

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## SECTION 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

Inhalation  
Skin contact  
Ingestion  
Eye contact

### Acute toxicity

Not classified based on available information.

### Product:

Acute oral toxicity : Acute toxicity estimate: > 5,000 mg/kg  
Method: Calculation method

### Ingredients:

#### Ethanol:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg



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Acute inhalation toxicity : LC50 (Rat): 124.7 mg/l Exposure  
time: 4 h  
Test atmosphere: vapor

**Propan-2-ol:**

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Acute inhalation toxicity : LC50 (Rat): 72.6 mg/l Exposure  
time: 4 h  
Test atmosphere: vapor

Acute dermal toxicity : LD50 (Rat): > 5,000 mg/kg

**Skin corrosion/irritation**

Not classified based on available information.

**Product:**

Result: No skin irritation

**Ingredients:**

**Ethanol:**

Species: Rabbit

Method: OECD Test Guideline 404

Result: No skin irritation

**Propan-2-ol:**

Species: Rabbit

Result: No skin irritation

**Serious eye damage/eye irritation** Causes  
serious eye irritation.

**Ingredients:**

**Ethanol:**

Species: Rabbit

Result: Irritation to eyes, reversing within 21 days

Method: OECD Test Guideline 405

**Propan-2-ol:**

Species: Rabbit

Result: Irritation to eyes, reversing within 21 days

**Respiratory or skin sensitization**

Skin sensitization: Not classified based on available information.

Respiratory sensitization: Not classified based on available information.

**Product:**

Assessment: Does not cause skin sensitization.



### **Ingredients:**

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#### **Ethanol:**

Test Type: Local lymph node assay (LLNA)  
Routes of exposure: Skin contact  
Species: Mouse  
Result: negative

#### **Propan-2-ol:**

Test Type: Buehler Test  
Routes of exposure: Skin contact  
Species: Guinea pig  
Method: OECD Test Guideline 406  
Result: negative

#### **Germ cell mutagenicity**

Not classified based on available information.

#### **Ingredients: Ethanol:**

Genotoxicity in vitro : Test Type: In vitro mammalian cell gene mutation test  
Result: negative

Genotoxicity in vivo : Test Type: Rodent dominant lethal test (germ cell) (in vivo)  
Species: Mouse  
Application Route: Ingestion  
Result: negative

#### **Propan-2-ol:**

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES) Result:  
negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo  
cytogenetic assay)  
Species: Mouse  
Application Route: Intraperitoneal injection  
Result: negative

#### **Carcinogenicity**

Not classified based on available information.

#### **Ingredients:**

#### **Propan-2-ol:**

Species: Rat  
Application Route: inhalation (vapor)  
Exposure time: 104 weeks  
Method: OECD Test Guideline 451  
Result: negative



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<b>IARC</b>	No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
<b>OSHA</b>	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
<b>NTP</b>	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

**Reproductive toxicity**

Not classified based on available information.

**Ingredients:**

**Ethanol:**

Effects on fertility : Test Type: Two-generation reproduction toxicity study  
Species: Mouse  
Application Route: Ingestion  
Method: OECD Test Guideline 416  
Result: negative

**Propan-2-ol:**

Effects on fertility : Test Type: Two-generation reproduction toxicity study  
Species: Rat  
Application Route: Ingestion  
Result: negative

Effects on fetal development : Test Type: Embryo-fetal development  
Species: Rat  
Application Route: Ingestion



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Result: negative

**STOT-single exposure**

Not classified based on available information.

**Ingredients:**

**Propan-2-ol:**

Assessment: May cause drowsiness or dizziness.

**STOT-repeated exposure**

Not classified based on available information.

**Repeated dose toxicity**

**Ingredients:**

**Ethanol:**

Species: Rat

NOAEL: 2,400 mg/kg

Application Route: Ingestion

Exposure time: 2 y

**Propan-2-ol:**

Species: Rat

NOAEL: 5000 ppm

Application Route: inhalation (vapor)

Exposure time: 104 w

Method: OECD Test Guideline 413

**Aspiration toxicity**

Not classified based on available information.

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**SECTION 12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

Toxicity to daphnia and other aquatic invertebrates  
(Chronic toxicity)

**Ingredients:**

**Ethanol:**

Toxicity to fish

: LC50 (Pimephales promelas (fathead minnow)): > 1,000 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other  
aquatic invertebrates

: EC50 (Daphnia magna (Water flea)): > 1,000 mg/l  
Exposure time: 48 h

Toxicity to algae

: EC50 (Chlorella vulgaris (Fresh water algae)): 275 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201

: NOEC (Daphnia magna  
(Water flea)): 9.6 mg/l  
Exposure time: 9 d

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Toxicity to bacteria : EC50 (Photobacterium phosphoreum): 32.1 mg/l  
Exposure time: 0.25 h

**Propan-2-ol:**

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 10,000 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 10,000 mg/l  
Exposure time: 24 h

Toxicity to algae : ErC50 (Scenedesmus quadricauda (Green algae)): > 1,800 mg/l  
Exposure time: 8 d

Toxicity to bacteria : EC50 (Pseudomonas putida): > 1,050 mg/l  
Exposure time: 16 h

**Persistence and degradability**

**Ingredients:**

**Ethanol:**

Biodegradability : Result: Readily biodegradable.  
Biodegradation: 84 %  
Exposure time: 20 d

**Propan-2-ol:**

Biodegradability : Result: rapidly degradable

**Bioaccumulative potential**

**Ingredients:**

**Ethanol:**

Partition coefficient: n-octanol/water : log Pow: -0.35

**Propan-2-ol:**

Partition coefficient: n-octanol/water : log Pow: 0.05

**Mobility in soil**

No data available

**Other adverse effects**



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No data available

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### SECTION 13. DISPOSAL CONSIDERATIONS

#### Disposal methods

- Waste from residues : Dispose of in accordance with local regulations.
- Contaminated packaging : Dispose of as unused product.  
Empty containers should be taken to an approved waste handling site for recycling or disposal.  
Do not burn, or use a cutting torch on, the empty drum.
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### SECTION 14. TRANSPORT INFORMATION

#### International Regulation

##### UNRTDG

- UN number : UN 1987  
Proper shipping name : ALCOHOLS, N.O.S.  
(Ethanol, Propan-2-ol)  
Class : 3  
Packing group : III  
Labels : 3

##### IATA-DGR

- UN/ID No. : UN 1987  
Proper shipping name : Alcohols, n.o.s.  
(Ethanol, Propan-2-ol)  
Class : 3  
Packing group : III  
Labels : Flammable Liquids  
Packing instruction (cargo aircraft) : 366  
Packing instruction (passenger aircraft) : 355

##### IMDG-Code

- UN number : UN 1987  
Proper shipping name : ALCOHOLS, N.O.S.  
(Ethanol, Propan-2-ol)  
Class : 3  
Packing group : III  
Labels : 3  
EmS Code : F-E, S-D  
Marine pollutant : no

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable for product as supplied.**



**Domestic regulation**

**49 CFR**

UN/ID/NA number : UN 1987  
 Proper shipping name : ALCOHOLS, N.O.S.

Class : 3  
 Packing group : III  
 Labels : FLAMMABLE LIQUID  
 ERG Code : 127  
 Marine pollutant : no

**SECTION 15. REGULATORY INFORMATION**

**EPCRA - Emergency Planning and Community Right-to-Know**

**CERCLA Reportable Quantity**

This material does not contain any components with a CERCLA RQ.

**SARA 304 Extremely Hazardous Substances Reportable Quantity** This

material does not contain any components with a section 304 EHS RQ.

**SARA 311/312 Hazards** : Fire Hazard  
 Acute Health Hazard

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

**SARA 313** : The following components are subject to reporting levels established by SARA Title III, Section 313:

Propan-2-ol	67-63-0	3.4086 %
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**US State Regulations**

**Pennsylvania Right To Know**

Ethanol	64-17-5	50 - 70 %
Water	7732-18-5	30 - 50 %
Propan-2-ol	67-63-0	1 - 5 %

**New Jersey Right To Know**

Ethanol	64-17-5	50 - 70 %
Water	7732-18-5	30 - 50 %
Propan-2-ol	67-63-0	1 - 5 %

**California Prop 65** : This product does not contain any chemicals known to the





State of California to cause cancer, birth, or any other reproductive defects.

**The ingredients of this product are reported in the following inventories:**

AICS : All ingredients listed or exempt.

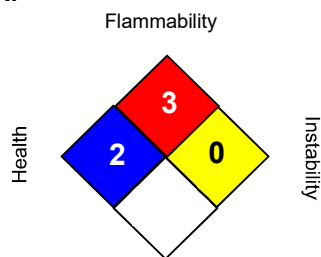
**Inventories**

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), NECSI (Taiwan), TSCA (USA)

**SECTION 16. OTHER INFORMATION**

**Further information**

**NFPA:**



**HMIS III:**

<b>HEALTH</b>	<b>2</b>
<b>FLAMMABILITY</b>	<b>3</b>
<b>PHYSICAL HAZARD</b>	<b>0</b>

0 = not significant, 1 =Slight,  
2 = Moderate, 3 = High  
4 = Extreme, \* = Chronic

**Full text of other abbreviations**

- ACGIH : USA. ACGIH Threshold Limit Values (TLV)
- ACGIH BEI : ACGIH - Biological Exposure Indices (BEI)
- NIOSH REL : USA. NIOSH Recommended Exposure Limits
- OSHA Z-1 : USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
- ACGIH / TWA : 8-hour, time-weighted average
- ACGIH / STEL : Short-term exposure limit
- NIOSH REL / TWA : Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek
- NIOSH REL / ST : STEL - 15-minute TWA exposure that should not be exceeded at any time during a workday
- OSHA Z-1 / TWA : 8-hour time weighted average



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Sources of key data used to compile the Material Safety Data Sheet : Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, <http://echa.europa.eu/>

Revision Date : 02/02/2020

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

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