

Effective Date: March 2020  
REF NO.:AK20/0316/ETHANOL 99% (WITH 5% IPA)

## ETHANOL 99% (WITH 5% IPA)

### 1. Chemical Product and Company Identification

**Product Identification:**

Ethanol 99% (with 5% IPA)

**Chemicals Name:**

Ethanol 99% (with 5% IPA)

**Other Trade Name:**

**Manufacturer/Supplier:**

Aik Moh Paints & Chemicals Pte Ltd  
20 TUAS STREET, SINGAPORE 638457  
Tel : 6863 1993 Fax : 6863 8033  
Website : www.aikmoh.com.sg

### 2. Hazards Identification

**GHS Classification**

Flammable Liquids	2
Eye Irritation	2
Specific target organ toxicity - single exposure	3

**GHS Label Elements**



**Signal words:** Danger

**Physical hazards:**

Hazard classification:  
H225 - Highly flammable liquid and vapour

**Health hazards:**

Hazard classification:  
H319 - Causes serious eye irritation  
H336 - May cause drowsiness or dizziness

**Precautionary Statement(s):**

**Prevention**

P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
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/protective clothing/eye protection/face protection.  
P264 - Wash thoroughly after handling.  
P271 - Use only outdoors or in a well-ventilated area.  
P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.

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P235 - Keep cool.

**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 suitable extinguishing media for extinction. (Refer to MSDS Section 5)

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.

P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

**Storage**

P403 + P233 - Store in a well-ventilated place. Keep container tightly closed.

P405 - Store locked up.

**Disposal**

P501 - Dispose of contents/container to an approved waste disposal plant.

### 3. Composition Information on Ingredients

Material	Composition % (w/w)	CAS Number	Index Number	EC-Number
Ethanol	94.5 - 95.0	64-17-5	603-002-00-5	200-578-6
Isopropanol	5.0 - 5.4	67-63-0	603-117-00-0	200-661-7

### 4. First-Aid Measures

**Description of necessary first-aid measures**

**Inhalation**

Move to fresh air in case of accidental inhalation of vapours. If breathing is irregular or stopped, administer artificial respiration. If symptoms persist, call a physician.

**Skin contact**

Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.

**Eye contact**

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses. If eye irritation persists, consult a specialist.

**Ingestion**

Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Call a physician immediately.

**Most important symptoms/effects, acute and delayed**

Refer to SECTION 11

### 5. Fire Fighting Measures

**Suitable extinguishing media**

Water spray. Dry powder. Alcohol-resistant foam.

**Unsuitable extinguishing media**

Water spray jet.

**Special hazards arising from the substance or mixture**

Flash back possible over considerable distance. Do not allow run-off from fire fighting to enter drains or water courses.

**Special protective equipment for firefighters**

In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.

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### 6. Accidental Release Measures

#### Personal precautions

Keep people away from and upwind of spill/leak. Remove all sources of ignition. Do not breathe vapours or spray mist.

#### Environmental precautions

Prevent product from entering drains. Prevent further leakage or spillage if safe to do so.

#### Methods for cleaning up

Soak up with inert absorbent material and dispose of as hazardous waste.

#### Reference to other sections

Refer to Section 8 and 13

### 7. Handling and Storage

#### Safe handling advice

Do not breathe vapours or spray mist. Wear personal protective equipment.

#### Advice on protection against fire and explosion

Keep away from open flames, hot surfaces and sources of ignition. Use explosion-proof equipment.

#### Requirements for storage areas and containers

Keep away from sources of ignition - No smoking.

#### Advice on common storage

Keep containers tightly closed in a cool, well-ventilated place.

### 8. Exposure Controls/Personal Protection

#### Components with workplace control parameters

NATIONAL OCCUPATIONAL EXPOSURE LIMITS

Components	Type	Control Parameters	Update	Basis
Ethanol (Ethyl alcohol)	TWA	1,880 mg/m <sup>3</sup>	2006	Singapore PELs
	TWA	1,000 ppm	2006	Singapore PELs

#### Exposure controls

##### Engineering measures

Provide sufficient air exchange and/or exhaust in work rooms.

##### Personal protective equipment

##### Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment.

##### Hand protection

Gloves suitable for permanent contact:

- Material: butyl-rubber
- Break through time: 4 h
- Material thickness: 0.5 mm

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### Eye protection

Safety glasses with side-shields

### Skin and body protection

Safety shoes. Protective suit.

### Hygiene measures

Wash hands immediately after handling the product.

## 9. Physical and Chemical Properties

### Information on basic physical and chemical properties

**Form** : Liquid

**State of matter** : Liquid; at 20 °C; 1,013 hPa

**Colour** : Colourless

**Odour** : Alcohol-like

**Odour Threshold** : No data available

**pH** : Neutral

**Melting point/range** : -88.5 °C

**Boiling point/boiling range** : 78.3 °C

**Flash point** : 16 °C; closed cup

**Evaporation rate** : No data available

**Flammability (solid, gas)** : No data available

**Auto-ignition temperature** : 363 °C

### Explosion Limit

**Lower** : 3.3 %(V)

**Upper** : 19 %(V)

**Relative vapour density** : 2.08

**Density** : 0.79 g/cm<sup>3</sup>; 20 °C

**Water solubility** : Completely miscible, Completely soluble

**Viscosity, dynamic** : 2.4 mPa.s

## 10. Stability and Reactivity

### Reactivity

Stable under recommended storage conditions.

### Chemical stability

Stable under recommended storage conditions.

### Possibility of hazardous reactions

No dangerous reaction known under conditions of normal use.

### Conditions to avoid

Heat, flames and sparks. Extremes of temperature and direct sunlight.

### Materials to avoid

Oxidizing agents. Acids and bases

### Hazardous decomposition products

Carbon oxides

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### 11. Toxicological Information

#### Acute oral toxicity

Ethanol: LD50 Rat: > 2,000 mg/kg; OECD Test Guideline 401; GLP: no; (literature value)  
Propan-2-ol; isopropyl alcohol; isopropanol: LD50 Rat: > 2,000 mg/kg; (literature value)

#### Acute inhalation toxicity

Ethanol: LC50 Mouse: 4 h; > 20 mg/l; (literature value)  
Propan-2-ol; isopropyl alcohol; isopropanol: LC50 Rat: 8 h; > 20 mg/l; (literature value)

#### Acute dermal toxicity

Ethanol: LD50 Dermal Rabbit: > 2,000 mg/kg; OECD Test Guideline 402; (literature value)  
Propan-2-ol; isopropyl alcohol; isopropanol: LD50 Rabbit: > 2,000 mg/kg; (literature value)

#### Skin irritation

Ethanol: Rabbit: Not irritating; OECD Test Guideline 404 (literature value)  
Propan-2-ol; isopropyl alcohol; isopropanol: Rabbit: Not irritating; (literature value)

#### Eye irritation

Ethanol: Rabbit: Irritating OECD Test Guideline 405 (literature value)  
Propan-2-ol; isopropyl alcohol; isopropanol: Rabbit: Irritating (literature value)

#### Sensitisation

Ethanol: Maximisation Test (GPMT); Guinea pig: Not sensitizing; OECD Test Guideline 406; (literature value)  
Propan-2-ol; isopropyl alcohol; isopropanol: Buehler Test; Guinea pig: Not sensitizing; (literature value)

#### Mutagenicity

Ethanol: Ames test: Salmonella typhimurium; with and without; Not mutagenic; OECD Test Guideline 471; (literature value)  
Propan-2-ol; isopropyl alcohol; isopropanol: Ames test: Salmonella typhimurium; with and without; Not mutagenic; (literature value)

### 12. Ecological Information

#### Toxicity to fish

Ethanol: Static test; Leuciscus idus; 48 h; LC50; > 100 mg/l; OECD Test Guideline 203; (literature value)  
Propan-2-ol; isopropyl alcohol; isopropanol: Static test; Leuciscus idus melanotus; 48 h; LC50; > 100 mg/l; (literature value)

#### Toxicity to daphnia and other aquatic invertebrates

Ethanol: Static test; Daphnia magna (Water flea); 24 h; EC50; > 100 mg/l; OECD Test Guideline 202; (literature value)  
Propan-2-ol; isopropyl alcohol; isopropanol: Static test; Daphnia magna (Water flea); 48 h; EC50; > 100 mg/l; (literature value)

#### Toxicity to algae

Ethanol: Static test; Chlorella pyrenoidosa; EC50; > 100 mg/l; OECD Test Guideline 201; (literature value)  
Propan-2-ol; isopropyl alcohol; isopropanol: Static test; Scenedesmus subspicatus; 72 h; EC50; > 100 mg/l; (literature value)

#### Toxicity to bacteria

Ethanol: Pseudomonas putida; 16 h; 6,500 mg/l; Toxicity to bacteria

#### Biodegradability

Ethanol: Aerobic; > 70 %; 5 d; Readily biodegradable; OECD Guideline 301 D; (literature value)  
Propan-2-ol; isopropyl alcohol; isopropanol: Aerobic; activated sludge; 53 %; 5 d; Readily biodegradable; (literature value)

#### Bioaccumulation

Propan-2-ol; isopropyl alcohol; isopropanol: No bioaccumulation is to be expected (log Pow <= 4).

#### Mobility in soil

No data available

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### Results of PBT and vPvB assessment

This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

### Chemical Oxygen Demand (COD)

Ethanol: ca.1,700 mg/g; Directive 84/449/EEC, C.9; no;

## 13. Disposal Considerations

Dispose of in accordance with local regulations.

## 14. Transport Information

### ADR

**UN number** : 1170  
**Class** : 3  
**Packaging group** : II; F1;  
**Proper shipping name** : ETHANOL SOLUTION

### RID

**UN number** : 1170  
**Class** : 3  
**Packaging group** : II; F1  
**Proper shipping name** : ETHANOL SOLUTION

### ADNR

**UN number** : 1170  
**Class** : 3  
**Packaging group** : II; F1  
**Proper shipping name** : ETHANOL SOLUTION

### IMDG

**UN number**: 1170  
**Class** : 3  
**EmS** : F-E, S-D  
**Packaging group** : II  
**Proper shipping name** : ETHANOL SOLUTION  
**Marine pollutant** : Not a Marine Pollutant

### ICAO/IATA

**UN number** : 1170  
**Class** : 3  
**Packaging group** : II  
**Proper shipping name** : ETHANOL SOLUTION  
**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Ethanol 99/IPA (Contains ethyl alcohol); Pollution Category: Z

## 15. Regulatory Information

### Safety, health and environmental regulations/legislation specific for the substance or mixture

Registration, Evaluation and Authorisation of Chemicals (REACH)

All chemical constituents are listed in: Registration, Evaluation and Authorisation of Chemicals (REACH) (See chapter 3)

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### USA TSCA Inventory

All chemical constituents are listed in: USA TSCA Inventory (See chapter 3)

### Canadian Domestic Substances List (DSL)

All chemical constituents are listed in: Canadian Domestic Substances List (DSL) (See chapter 3)

### Australian Inv. of Chem. Substances (AICS)

All chemical constituents are listed in: Australian Inv. of Chem. Substances (AICS) (See chapter 3)

### New Zealand Inventory of Chemicals (NZIoC)

All chemical constituents are listed in: New Zealand Inventory of Chemicals (NZIoC) (See chapter 3)

### Jap. Inv. of Exist. & New Chemicals (ENCS)

All chemical constituents are listed in: Jap. Inv. of Exist. & New Chemicals (ENCS) (See chapter 3)

### Japan. Industrial Safety & Health Law (ISHL)

All chemical constituents are listed in: Japan. Industrial Safety & Health Law (ISHL) (See chapter 3)

### Korea. Existing Chemicals Inventory (KECI)

All chemical constituents are listed in: Korea. Existing Chemicals Inventory (KECI) (See chapter 3)

### Philippines Inventory of Chemicals and Chemical Substances (PICCS)

All chemical constituents are listed in: Philippines Inventory of Chemicals and Chemical Substances (PICCS) (See chapter 3)

### China Inv. Existing Chemical Substances (IECSC)

All chemical constituents are listed in: China Inv. Existing Chemical Substances (IECSC) (See chapter 3)

## 16. Other Information

### Full text of H-Statements

H225 Highly flammable liquid and vapour.

H319 Causes serious eye irritation.

H336 May cause drowsiness or dizziness.

### Disclaimer

This information is based on our current knowledge and is intended to describe the product for the only. It should not therefore be construed as guaranteeing any specific property of the product.