

**Safety Data Sheet dated 10/23/2017, version 1**

## 1. IDENTIFICATION

Product identifier

Mixture identification:

Trade name: SO2 INDICATOR

Other means of identification:

Product codes: 10-222-0060, 10-222-0118, 10-222-0237, 10-222-0473

Recommended use of the chemical and restrictions on use

Recommended use:

FOR PROFESSIONAL USE

Restrictions on use:

Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

Company:

Enartis USA Inc.

7795 Bell Road

Windsor

CA 95492

Competent person responsible for the safety data sheet:

compliance@enartis.com

Emergency phone number

Phone: +1 (707) 838 6312

Fax: +1 (707) 838 1765

## 2. HAZARD(S) IDENTIFICATION

Classification of the chemical

⚠ Warning, Flam. Liq. 3, Flammable liquid and vapour.

⚠ Warning, Eye Irrit. 2A, Causes serious eye irritation.

⚠ Danger, STOT SE 1, Causes damage to organs.

Label elements

Hazard pictograms:



Danger

Hazard statements:

H226 Flammable liquid and vapour.

H319 Causes serious eye irritation.

H370 Causes damage to organs.

Precautionary statements:

P210 Keep away from heat/sparks/open flames/hot surfaces. — No smoking.

P242 Use only non-sparking tools.

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

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.



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P308+P311 IF exposed or concerned: Call a doctor.

P370+P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

P403+P235 Store in a well-ventilated place. Keep cool.

P405 Store locked up.

P501 Dispose of contents/container in accordance with applicable regulations.

Special Provisions:

None

Hazards not otherwise classified identified during the classification process:

None

Ingredient(s) with unknown acute toxicity:

None.

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### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances

N.A.

Mixtures

Hazardous components within the meaning of 29 CFR 1910.1200 and related classification:

>= 50% - < 60% Ethanol; Ethyl alcohol

Index number: 603-002-00-5, CAS: 64-17-5, EC: 200-578-6

⚠ A.3/2A Eye Irrit. 2A H319

⚠ B.6/2 Flam. Liq. 2 H225

>= 1% - < 3% Isopropyl Alcohol, Propan-2-Ol

Index number: 603-117-00-0, CAS: 67-63-0, EC: 200-661-7

⚠ B.6/2 Flam. Liq. 2 H225

⚠ A.3/2A Eye Irrit. 2A H319

⚠ A.8/3 STOT SE 3 H336

>= 1% - < 3% Methanol

Index number: 603-001-00-X, CAS: 67-56-1, EC: 200-659-6

⚠ B.6/2 Flam. Liq. 2 H225

⚠ A.8/1 STOT SE 1 H370

⚠ A.1/3/Oral Acute Tox. 3 H301

⚠ A.1/3/Dermal Acute Tox. 3 H311

⚠ A.1/3/Inhal Acute Tox. 3 H331

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### 4. FIRST-AID MEASURES

Description of necessary measures

In case of skin contact:

Immediately take off all contaminated clothing.

Remove contaminated clothing immediately and dispose off safely.

After contact with skin, wash immediately with soap and plenty of water.

In case of eyes contact:

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.

Protect uninjured eye.

In case of Ingestion:

Induce vomiting. SEEK A MEDICAL EXAMINATION IMMEDIATELY and present the safety-data sheet.

In case of Inhalation:

Remove casualty to fresh air and keep warm and at rest.

Most important symptoms/effects, acute and delayed

None

Indication of immediate medical attention and special treatment needed

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

Treatment:  
None

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## 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media:  
Use dry chemical, CO2, water spray, (fog) or foam  
In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Unsuitable extinguishing media:  
None in particular.

Specific hazards arising from the chemical  
Do not inhale explosion and combustion gases.

Hazardous combustion products:  
None

Explosive properties: N.A.  
Oxidizing properties: N.A.

Special protective equipment and precautions for fire-fighters  
Use suitable breathing apparatus .  
Collect contaminated fire extinguishing water separately. This must not be discharged into drains.  
Move undamaged containers from immediate hazard area if it can be done safely.

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## 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, and emergency procedures  
Wear personal protection equipment.  
Remove all sources of ignition.  
Wear breathing apparatus if exposed to vapours/dusts/aerosols.  
Provide adequate ventilation.  
Remove persons to safety.  
Use appropriate respiratory protection.  
See protective measures under point 7 and 8.

Methods and materials for containment and cleaning up  
Wash with plenty of water.

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## 7. HANDLING AND STORAGE

Precautions for safe handling  
Avoid contact with skin and eyes, inhalation of vapours and mists.  
Do not use on extensive surface areas in premises where there are occupants.  
Don't use empty container before they have been cleaned.  
Before making transfer operations, assure that there aren't any incompatible material residuals in the containers.  
Contaminated clothing should be changed before entering eating areas.  
Do not eat or drink while working.  
See also section 8 for recommended protective equipment.

Conditions for safe storage, including any incompatibilities  
Always keep in a well ventilated place.  
Keep away from unguarded flame, sparks, and heat sources. Avoid direct exposure to sunlight.  
Keep away from food, drink and feed.  
Incompatible materials:  
None in particular.  
Instructions as regards storage premises:  
Cool and adequately ventilated.  
Storage temperature:  
Store at ambient temperature.

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

SI222/1

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### SO<sub>2</sub> INDICATOR

Ethanol; Ethyl alcohol - CAS: 64-17-5

OSHA - TWA: 1900 mg/m<sup>3</sup>, 1000 ppm

ACGIH - STEL: 1000 ppm - Notes: A3 - URT irr

National - STEL: 3300 ppm - Notes: US IDLH (10% LEL)

National - TWA: 1900 mg/m<sup>3</sup>, 1000 ppm - STEL: 1000 ppm - Notes: Mexico

Ontario

Québec - TWA: 1880 mg/m<sup>3</sup>, 1000 ppm

Isopropyl Alcohol, Propan-2-ol - CAS: 67-63-0

OSHA - TWA: 980 mg/m<sup>3</sup>, 400 ppm - Notes: Table Z-1 Limits for Air Contaminants

ACGIH - TWA(8h): 200 ppm - STEL: 400 ppm - Notes: A4, BEI - Eye and URT irr, CNS impair

NIOSH - TWA: 980 mg/m<sup>3</sup>, 400 ppm - STEL: 1225 mg/m<sup>3</sup>, 500 ppm

National - TWA: 980 mg/m<sup>3</sup>, 400 ppm - STEL: 1225 mg/m<sup>3</sup>, 500 ppm - Notes: California permissible exposure limits for chemical contaminants (Title 8, Article 107)

Methanol - CAS: 67-56-1

EU - TWA(8h): 260 mg/m<sup>3</sup>, 200 ppm - Notes: Skin

ACGIH - TWA(8h): 200 ppm - STEL: 250 ppm - Notes: Skin, BEI - Headache, eye dam, dizziness, nausea

NIOSH - TWA: 260 mg/m<sup>3</sup>, 200 ppm - STEL: 325 mg/m<sup>3</sup>, 250 ppm

OSHA - TWA: 260 mg/m<sup>3</sup>, 200 ppm - Notes: Table z-1 Limits for Air Contaminants

National - STEL: Ceiling 1000 ppm - Notes: California permissible exposure limits for chemical contaminants (Title 8, Article 107)

Appropriate engineering controls:

None

Individual protection measures

Eye protection:

Eye glasses with side protection.

Protection for skin:

Use clothing that provides comprehensive protection to the skin, e.g. cotton, rubber, PVC or viton.

Protection for hands:

Use protective gloves that provides comprehensive protection.

Respiratory protection:

Use adequate protective respiratory equipment.

Thermal Hazards:

None

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance and colour:	Liquid
Odour:	None
Odour threshold:	N.A.
pH:	N.A.
Melting point / freezing point:	N.A.
Initial boiling point and boiling range:	N.A.
Solid/gas flammability:	N.A.
Upper/lower flammability or explosive limits:	N.A.
Vapour density:	N.A.
Flash point:	N.A. °F
Evaporation rate:	N.A.
Vapour pressure:	N.A.
Relative density:	N.A.
Solubility in water:	N.A.
Solubility in oil:	N.A.
Partition coefficient (n-octanol/water):	N.A.
Auto-ignition temperature:	N.A.
Decomposition temperature:	N.A.
Viscosity:	N.A.

Miscibility: N.A.  
Fat Solubility: N.A.  
Conductivity: N.A.  
Substance Groups relevant properties N.A.

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## 10. STABILITY AND REACTIVITY

### Reactivity

Stable under normal conditions

### Chemical stability

Stable under normal conditions

### Possibility of hazardous reactions

It may generate flammable gases on contact with elementary metals (alkalis and alkaline earth), nitrides, and powerful reducing agents.

It may catch fire on contact with oxidising mineral acids, elementary metals (alkalis and alkaline earth), nitrides, organic peroxides and hydroperoxides, oxidising agents, and reducing agents.

### Conditions to avoid

Keep away from heat and direct sunlight.

### Incompatible materials

Avoid contact with combustible materials. The product could catch fire.

### Hazardous decomposition products

None.

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## 11. TOXICOLOGICAL INFORMATION

### Information on toxicological effects

#### Toxicological information of the product:

N.A.

#### Toxicological information of the main substances found in the product:

Ethanol; Ethyl alcohol - CAS: 64-17-5

##### a) acute toxicity:

Test: LC50 - Route: Inhalation - Species: Mouse = 39 g/m<sup>3</sup> - Duration: 4h

Test: LC50 - Route: Inhalation - Species: Rat = 2000 Ppm - Notes: 10h

Test: LD50 - Route: Oral - Species: Mouse = 3450 mg/kg

Test: LD50 - Route: Oral - Species: Rabbit = 6300 mg/kg

Test: LD50 - Route: Oral - Species: Rat = 7060 mg/kg

Test: LD50 - Route: Skin - Species: Rat = 20 ml/kg

Isopropyl Alcohol, Propan-2-ol - CAS: 67-63-0

##### a) acute toxicity:

Test: LD50 - Route: Oral - Species: Rat = 5.045 mg/kg

Test: LD50 - Route: Skin - Species: Rabbit = 12.8 g/kg

Test: LC50 - Route: Inhalation - Species: Rat = 16000 Ppm - Duration: 8h

Methanol - CAS: 67-56-1

##### a) acute toxicity:

Test: LD50 - Route: Oral - Species: Rat = 2769 mg/kg

Test: LD50 - Route: Skin - Species: Rabbit = 17000 mg/kg

Test: LC50 - Route: Inhalation - Species: Rat = 128.2 mg/l - Duration: 4h

Test: LC50 - Route: Inhalation - Species: Rat = 87.6 mg/l - Duration: 4h

#### Substance(s) listed on the NTP report on Carcinogens:

None.

#### Substance(s) listed on the IARC Monographs:

Ethanol; Ethyl alcohol - Group 1

Isopropyl Alcohol, Propan-2-ol - Group 3.

#### Substance(s) listed as OSHA Carcinogen(s):

Ethanol; Ethyl alcohol.

#### Substance(s) listed as NIOSH Carcinogen(s):

None.

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

Adopt good working practices, so that the product is not released into the environment.

Ethanol; Ethyl alcohol - CAS: 64-17-5

#### a) Aquatic acute toxicity:

Endpoint: EC50 - Species: Daphnia = 2 mg/l - Duration h: 48

Endpoint: LC50 - Species: Fish > 100 mg/l - Duration h: 96

Endpoint: LC50 - Species: Fish > 12 mg/l - Duration h: 48

Isopropyl Alcohol, Propan-2-ol - CAS: 67-63-0

#### a) Aquatic acute toxicity:

Endpoint: LC50 - Species: Daphnia > 100 mg/l - Duration h: 48

Endpoint: EC50 - Species: Fish = 10000 mg/l - Duration h: 48

Endpoint: LC50 - Species: Fish > 1400 mg/l - Duration h: 96

Endpoint: LC50 - Species: Fish = 6550 mg/l - Duration h: 96

Methanol - CAS: 67-56-1

#### a) Aquatic acute toxicity:

Endpoint: LC50 - Species: Fish = 15400 mg/l - Duration h: 96

Endpoint: EC50 - Species: Daphnia > 10000 mg/l - Duration h: 48

Endpoint: NOEC - Species: Fish = 7900 mg/l - Duration h: 200

Endpoint: EC50 - Species: Algae = 22000 mg/l - Duration h: 96

### Persistence and degradability

N.A.

### Bioaccumulative potential

N.A.

### Mobility in soil

N.A.

### Other adverse effects

None

## 13. DISPOSAL CONSIDERATIONS

### Waste treatment and disposal methods

Recover, if possible. Send to authorised disposal plants or for incineration under controlled conditions. In so doing, comply with the local and national regulations currently in force.

## 14. TRANSPORT INFORMATION

### UN number

ADR-UN Number: 1170

DOT number: UN1170

IATA-UN Number: 1170

IMDG-UN Number: 1170

### UN proper shipping name

ADR-Shipping Name: ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)

DOT-Shipping Name: Ethanol or Ethyl alcohol or Ethanol solutions or Ethyl alcohol solutions

IATA-Shipping Name: ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)

IMDG-Shipping Name: ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)

### Transport hazard class(es)

ADR-Class: 3

DOT Hazard Class: 3

IATA-Class: 3

IMDG-Class: 3



## Safety Data Sheet

### SO2 INDICATOR

Packing group	
ADR-Packing Group:	III
DOT Packing group:	III
IATA-Packing group:	III
IMDG-Packing group:	III
Environmental hazards	
ADR-Environmental Pollutant:	No
IMDG-Marine pollutant:	No
Most important toxic component:	SO2 INDICATOR
Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code)	
N.A.	
Special precautions	
DOT Special provisions:	24, B1, IB3, T2, TP1
ADR-Subsidiary risks:	-
ADR-S.P.:	144 601
ADR-Transport category (Tunnel restriction code):	3 (D/E)
IATA-Passenger Aircraft:	355
IATA-Subsidiary risks:	-
IATA-Cargo Aircraft:	366
IATA-S.P.:	A3 A58 A180
IATA-ERG:	3L
IMDG-EmS:	F-E , S-D
IMDG-Subsidiary risks:	-
IMDG-Stowage and handling:	Category A
IMDG-Segregation:	-

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## 15. REGULATORY INFORMATION

### USA - Federal regulations

#### TSCA - Toxic Substances Control Act

TSCA inventory: all the components are listed on the TSCA inventory.

TSCA listed substances:

Isopropyl Alcohol, Propan-2-Ol is listed in TSCA Section 8a - PAIR, Section 12b, Section 8d HSDR.

#### SARA - Superfund Amendments and Reauthorization Act

Section 302 – Extremely Hazardous Substances: no substances listed.

Section 304 – Hazardous substances: no substances listed.

Section 313 – Toxic chemical list: Isopropyl Alcohol, Propan-2-Ol, Methanol.

#### CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act

Substance(s) listed under CERCLA: Methanol - Reportable quantity: 5000 pounds.

Reportable quantity for mixture: 175438.5965 pounds.

#### CAA - Clean Air Act

CAA listed substances:

None.

#### CWA - Clean Water Act

CWA listed substances:

None.

### USA - State specific regulations

#### California Proposition 65

Substance(s) listed under California Proposition 65:

Ethanol; Ethyl alcohol - Listed as carcinogen

Methanol - Listed as reproductive toxicant.

#### Massachusetts Right to know

Substance(s) listed under Massachusetts Right to know:

Ethanol; Ethyl alcohol

Isopropyl Alcohol, Propan-2-Ol

Methanol.

New Jersey Right to know

Substance(s) listed under New Jersey Right to know:

Ethanol; Ethyl alcohol

Isopropyl Alcohol, Propan-2-Ol

Methanol.

Pennsylvania Right to know

Substance(s) listed under Pennsylvania Right to know:

Ethanol; Ethyl alcohol

Isopropyl Alcohol, Propan-2-Ol

Methanol.

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## 16. OTHER INFORMATION

Full text of phrases referred to in Section 3:

H319 Causes serious eye irritation.

H225 Highly flammable liquid and vapour.

H336 May cause drowsiness or dizziness.

H370 Causes damage to organs.

H301 Toxic if swallowed.

H311 Toxic in contact with skin.

H331 Toxic if inhaled.

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Sections modified from the previous revision:

2. HAZARD(S) IDENTIFICATION

4. FIRST-AID MEASURES

5. FIRE-FIGHTING MEASURES

7. HANDLING AND STORAGE

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

10. STABILITY AND REACTIVITY

11. TOXICOLOGICAL INFORMATION

12. ECOLOGICAL INFORMATION

SECTION 14: Transport information

15. REGULATORY INFORMATION

Disclaimer:

The information contained herein is based on our state of knowledge at the above-specified date. It refers solely to the product indicated and constitutes no guarantee of particular quality. The information relates only to the specific material and may not be valid for such material used in combination with any other material or in any process.

This Safety Data Sheet cancels and replaces any preceding release.

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.

CAS: Chemical Abstracts Service (division of the American Chemical Society).

CLP: Classification, Labeling, Packaging.

DNEL: Derived No Effect Level.

EINECS: European Inventory of Existing Commercial Chemical Substances.

GHS: Globally Harmonized System of Classification and Labeling of Chemicals.

HMIS: Hazardous Materials Identification System

IARC: International Agency for Research on Cancer

IATA: International Air Transport Association.

IATA-DGR: Dangerous Goods Regulation by the "International Air Transport



	Association" (IATA).
ICAO:	International Civil Aviation Organization.
ICAO-TI:	Technical Instructions by the "International Civil Aviation Organization" (ICAO).
IMDG:	International Maritime Code for Dangerous Goods.
INCI:	International Nomenclature of Cosmetic Ingredients.
KSt:	Explosion coefficient.
LC50:	Lethal concentration, for 50 percent of test population.
LD50:	Lethal dose, for 50 percent of test population.
LTE:	Long-term exposure.
NFPA:	National Fire Protection Association
NIOSH:	National Institute for Occupational Safety and Health
NTP:	National Toxicology Program
OSHA:	Occupational Safety and Health Administration
PNEC:	Predicted No Effect Concentration.
RID:	Regulation Concerning the International Transport of Dangerous Goods by Rail.
STE:	Short-term exposure.
STEL:	Short Term Exposure limit.
STOT:	Specific Target Organ Toxicity.
TLV:	Threshold Limiting Value.
TWATLV:	Threshold Limit Value for the Time Weighted Average 8 hour day. (ACGIH Standard).