

# SAFETY DATA SHEET

Date of last issue: -  
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## SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : MS41-CL300U / MS41-CL300A

### Manufacturer or supplier's details

Company : MUTOH AUSTRALIA PTY. LTD.  
Address : Unit 19/76 Reserve Road, Artarmon, NSW 2064, Australia  
Contact section : admin@mutoh-au.com or +61 2 9437 1366  
Telephone : +61 2 94371366  
Emergency telephone number : Emergency phone number (business hours): +61 2 9437 1366

### Recommended use of the chemical and restrictions on use


Recommended use : Digital Printing

## SECTION 2. HAZARDS IDENTIFICATION

### GHS Classification

Flammable liquids : Category 4  
Skin corrosion/irritation : Category 2

### GHS label elements

Hazard pictograms : 

Signal word : Warning

Hazard statements : H227 Combustible liquid.  
H315 Causes skin irritation.

Precautionary statements : **Prevention:**  
P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.  
P264 Wash skin thoroughly after handling.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.  
**Response:**  
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.  
P332 + P313 If skin irritation occurs: Get medical advice/ attention.  
P362 Take off contaminated clothing and wash before reuse.  
**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 which do not result in classification

Vapours may form explosive mixture with air.

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

### Components

| Chemical name                   | CAS-No.    | Concentration (% w/w) |
|---------------------------------|------------|-----------------------|
| Bis(2-ethoxyethyl) ether        | 112-36-7   | >= 30 - < 60          |
| (2-Methoxymethylethoxy)propanol | 34590-94-8 | >= 30 - < 60          |

## 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.  
Get medical attention if symptoms occur.
- In case of skin contact : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.  
Get medical attention.  
Wash clothing before reuse.  
Thoroughly clean shoes before reuse.
- In case of eye contact : Flush eyes with water as a precaution.  
Get medical attention if irritation develops and persists.
- 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 skin 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.

## SECTION 5. FIREFIGHTING MEASURES

- Suitable extinguishing media : Water spray  
Alcohol-resistant foam  
Carbon dioxide (CO<sub>2</sub>)  
Dry chemical
- Unsuitable extinguishing media : High volume water jet
- Specific hazards during firefighting : Do not use a solid water stream as it may scatter and spread fire.  
Flash back possible over considerable distance.  
Vapours may form explosive mixtures with air.  
Exposure to combustion products may be a hazard to health.
- Hazardous combustion product : 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 firefighters : In the event of fire, wear self-contained breathing apparatus.  
Use personal protective equipment.

## SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Remove all sources of ignition.  
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/vapours/mists with a water spray jet.  
For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked 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.

## SECTION 7. HANDLING AND STORAGE

- Technical measures : See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.
- Local/Total ventilation : Use with local exhaust ventilation.
- Advice on safe handling : Do not get on skin or clothing.  
Avoid inhalation of vapour or mist.  
Do not swallow.  
Avoid contact with eyes.  
Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment.  
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.
- 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.

Conditions for safe storage : Keep in properly labelled 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

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Components with workplace control parameters

| Components                           | CAS-No.    | Value type (Form of exposure) | Control parameters / Permissible concentration | Basis  |
|--------------------------------------|------------|-------------------------------|--|--------|
| (2-Methoxymethyl ethoxy)propanol     | 34590-94-8 | TWA                           | 50 ppm<br>308 mg/m3                            | AU OEL |
| Further information: Skin absorption |            |                               |  |        |
|                                      |            | TWA                           | 100 ppm  | ACGIH  |
|                                      |            | STEL                          | 150 ppm  | ACGIH  |

**Engineering measures** : Ensure adequate ventilation, especially in confined areas.  
Minimize workplace exposure concentrations.

### Personal protective equipment

Respiratory protection : Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines.

Filter type : Organic vapour type

Hand protection  
Material : Chemical-resistant gloves

Remarks : Choose gloves to protect hands against chemicals depending on the concentration and quantity of the hazardous substance and 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. Take note that the product is flammable, which may impact the selection of hand protection. Wash hands before breaks and at the end of workday.

Eye protection : Wear the following personal protective equipment:  
Safety glasses

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, unless assessment demonstrates that the risk of explosive atmospheres or flash fires is low  
Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc).

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

|  |   |
|--|---|
| Appearance                                       | : liquid  |
| Colour   | : clear   |
| Odour  | : slight  |
| Odour Threshold                                  | : No data available   |
| pH   | : No data available   |
| Melting point/freezing point                     | : No data available   |
| Initial boiling point and boiling range          | : No data available   |
| Flash point                                      | : $\geq 71$ °C<br>Method: Seta closed cup                   |
| Evaporation rate                                 | : No data available   |
| Flammability (solid, gas)                        | : Not applicable  |
| Flammability (liquids)                           | : No data available   |
| Upper explosion limit / Upper flammability limit | : No data available   |
| Lower explosion limit / Lower flammability limit | : No data available   |
| Vapour pressure                                  | : No data available   |
| Relative vapour density                          | : No data available   |
| Density  | : 0.9 - 1.1 g/cm <sup>3</sup>                               |
| Solubility(ies)                                  |   |
| Water solubility                                 | : soluble   |
| Solubility in other solvents                     | : soluble<br>Solvent: organic solvents                      |
| Partition coefficient: n-octanol/water           | : Not applicable  |
| Auto-ignition temperature                        | : No data available   |
| Decomposition temperature                        | : The substance or mixture is not classified self-reactive. |
| Viscosity  |   |
| Viscosity, kinematic                             | : No data available   |
| Explosive properties                             | : Not explosive   |
| Oxidizing properties                             | : The substance or mixture is not classified as oxidizing.  |
| Particle size                                    | : Not applicable  |

## SECTION 10. STABILITY AND REACTIVITY

|            |  |
|------------|--|
| Reactivity | : Not classified as a reactivity hazard. |
|------------|--|

|                                    |  |
|------------------------------------|--|
| Chemical stability                 | : Stable under normal conditions.  |
| Possibility of hazardous reactions | : Combustible liquid.<br>Vapours may form explosive mixture with air.<br>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.   |

## SECTION 11. TOXICOLOGICAL INFORMATION

|                 |  |
|-----------------|--|
| Exposure routes | : Inhalation<br>Skin contact<br>Ingestion<br>Eye contact |
|-----------------|--|

### Acute toxicity

Not classified based on available information.

#### Components:

##### **Bis(2-ethoxyethyl) ether:**

Acute oral toxicity : LD50 (Rat): 4,970 mg/kg

##### **(2-Methoxymethylethoxy)propanol:**

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg  
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat): > 5.296 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Assessment: The substance or mixture has no acute inhalation toxicity

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

### Skin corrosion/irritation

Causes skin irritation.

#### Components:

##### **Bis(2-ethoxyethyl) ether:**

Result: Skin irritation

Remarks: Based on data from similar materials

##### **(2-Methoxymethylethoxy)propanol:**

Species: Rabbit

Result: No skin irritation

### Serious eye damage/eye irritation

Not classified based on available information.

#### Components:

##### **Bis(2-ethoxyethyl) ether:**

Species: Rabbit

Result: No eye irritation

Method: OECD Test Guideline 405

##### **(2-Methoxymethylethoxy)propanol:**

Result: No eye irritation

### Respiratory or skin sensitization

#### Skin sensitization

Not classified based on available information.

**Respiratory sensitization**

Not classified based on available information.

**Components:**

**Bis(2-ethoxyethyl) ether:**

Test Type: Local lymph node assay (LLNA)

Exposure routes: Skin contact

Species: Mouse

Method: OECD Test Guideline 429

Result: negative

Remarks: Based on data from similar materials

**(2-Methoxymethylethoxy)propanol:**

Exposure routes: Skin contact

Species: Humans

Result: negative

**Chronic toxicity**

**Germ cell mutagenicity**

Not classified based on available information.

**Components:**

**Bis(2-ethoxyethyl) ether:**

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)  
Result: negative  
Remarks: Based on data from similar materials

Test Type: Chromosome aberration test in vitro  
Result: negative  
Remarks: Based on data from similar materials

Test Type: In vitro mammalian cell gene mutation test  
Result: negative  
Remarks: Based on data from similar materials

Genotoxicity in vivo : Test Type: Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis)  
Species: Mouse  
Application Route: Ingestion  
Result: negative  
Remarks: Based on data from similar materials

**(2-Methoxymethylethoxy)propanol:**

Genotoxicity in vitro : Test Type: Chromosome aberration test in vitro  
Result: negative

**Carcinogenicity**

Not classified based on available information.

**Components:**

**(2-Methoxymethylethoxy)propanol:**

Species: Rat

Application Route: inhalation (vapour)

Exposure time: 2 Years

Method: OECD Test Guideline 453

Result: negative

**Reproductive toxicity**

Not classified based on available information.

**Components:**

**Bis(2-ethoxyethyl) ether:**

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

Result: negative  
Remarks: Based on data from similar materials

Effects on foetal development : Test Type: Embryo-foetal development  
Species: Rabbit  
Application Route: Ingestion  
Result: negative

**(2-Methoxymethylethoxy)propanol:**

Effects on fertility : Test Type: Two-generation reproduction toxicity study  
Species: Rat  
Application Route: inhalation (vapour)  
Method: OECD Test Guideline 416  
Result: negative

Effects on foetal development : Test Type: Embryo-foetal development  
Species: Rat  
Application Route: inhalation (vapour)  
Result: negative

**STOT-single exposure**

Not classified based on available information.

**STOT-repeated exposure**

Not classified based on available information.

**Repeated dose toxicity**

**Components:**

**Bis(2-ethoxyethyl) ether:**

Species: Rat  
NOAEL: 2.49 mg/l  
Application Route: inhalation (dust/mist/fume)  
Exposure time: 4 Weeks  
Method: OECD Test Guideline 412

**(2-Methoxymethylethoxy)propanol:**

Species: Rat  
NOAEL: 1.21 mg/l  
Application Route: inhalation (vapour)  
Exposure time: 13 Weeks  
Method: OECD Test Guideline 413

Species: Rat  
NOAEL: 1,000 mg/kg  
Application Route: Ingestion  
Exposure time: 4 Weeks

**Aspiration toxicity**

Not classified based on available information.

**SECTION 12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

**Components:**

**Bis(2-ethoxyethyl) ether:**

Toxicity to fish : LC50: > 10,000 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other : LC50: 6,600 mg/l  
aquatic invertebrates Exposure time: 96 h

Toxicity to daphnia and other : EC10 (Ceriodaphnia dubia (water flea)): > 1 mg/l



aquatic invertebrates (Chronic toxicity) : Exposure time: 7 d  
Remarks: Based on data from similar materials

Toxicity to microorganisms : NOEC: > 1,000 mg/l  
Exposure time: 3 h  
Method: OECD Test Guideline 209

**(2-Methoxymethylethoxy)propanol:**

Toxicity to fish : LC50 (Poecilia reticulata (guppy)): > 1,000 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 1,919 mg/l  
Exposure time: 48 h  
Method: OECD Test Guideline 202

Toxicity to algae : EC50 (Selenastrum capricornutum (green algae)): > 969 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): >= 0.5 mg/l  
Exposure time: 22 d  
Method: OECD Test Guideline 211

Toxicity to microorganisms : EC50 (Pseudomonas putida): 4,168 mg/l  
Exposure time: 18 h

**Persistence and degradability**

**Components:**

**Bis(2-ethoxyethyl) ether:**

Biodegradability : Result: Not readily biodegradable.  
Biodegradation: 0 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301F

**(2-Methoxymethylethoxy)propanol:**

Biodegradability : Result: Readily biodegradable.  
Biodegradation: 96 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301F

**Bioaccumulative potential**

**Components:**

**Bis(2-ethoxyethyl) ether:**

Partition coefficient: : log Pow: 0.39  
n-octanol/water

**(2-Methoxymethylethoxy)propanol:**

Partition coefficient: : log Pow: 0.004  
n-octanol/water

**Mobility in soil**

No data available

**Other adverse effects**

No data available

**SECTION 13. DISPOSAL CONSIDERATIONS**

**Disposal methods**

Waste from residues : Dispose of in accordance with local regulations.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.  
Empty containers retain residue and can be dangerous.  
Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury and/or death.  
If not otherwise specified: Dispose of as unused product.

## SECTION 14. TRANSPORT INFORMATION

### International Regulations

#### UNRTDG

Not regulated as dangerous goods

#### IATA-DGR

Not regulated as dangerous goods

#### IMDG-Code

Not regulated as dangerous goods

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

Not applicable for product as supplied.

### National Regulations

#### ADG

Not regulated as dangerous goods

## SECTION 15. REGULATORY INFORMATION

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

Standard for the Uniform Scheduling of Medicines and Poisons : No poison schedule number allocated

Prohibition/Licensing Requirements : There is no applicable prohibition or notification/licensing requirements, including for carcinogens under Commonwealth, State or Territory legislation.

### The components of this product are reported in the following inventories:

AICS : All ingredients listed or exempt.

## SECTION 16. OTHER INFORMATION

### Further information

Sources of key data used to compile the 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 : 2019-03-01

### Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)  
AU OEL : Australia. Workplace Exposure Standards for Airborne Contaminants.  
ACGIH / TWA : 8-hour, time-weighted average  
ACGIH / STEL : Short-term exposure limit  
AU OEL / TWA : Exposure standard - time weighted average

AICS - Australian Inventory of Chemical Substances; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; CPR - Controlled Products Regulations; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada);

ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

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.