

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

|              |                  |
|--------------|------------------|
| Product name | FORMALDEHYDE 37% |
| CAS-No.      | 50-00-0          |
| Product code | AR1073M          |

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

|                 |                                       |
|-----------------|---------------------------------------|
| Identified uses | Chemical for analysis and production. |
|-----------------|---------------------------------------|

### 1.3 Details of the manufacturer of the safety data sheet

|                  |   |
|------------------|---|
| Manufacturer     | RCI LABSCAN LIMITED.<br>24 Rama 1 Road, Pathumwan, Bangkok 10330 Thailand |
| Telephone number | (662) 613-7911-4  |
| Fax number       | (662) 613-7915  |

### 1.4 Emergency Telephone Number

|                 |                  |
|-----------------|------------------|
| Emergency phone | (662) 613-7911-4 |
|-----------------|------------------|

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

#### Classification according to Regulation (EC) No 1272/2008

Flammable liquid and vapour (Category 3), H226  
Acute toxicity, Oral (Category 3), H301  
Acute toxicity, Inhalation (Category 2), H330  
Acute toxicity, Dermal (Category 3), H311  
Skin corrosion (Category 1B), H314  
Serious eye damage (Category 1), H318  
Skin sensitization (Category 1), H317  
Germ cell mutagenicity (Category 2), H341  
Carcinogenicity (Category 1B), H350  
Specific target organ toxicity - single exposure (Category 1), H370  
Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335  
For the full text of the H-Statements mentioned in this Section, see Section 16.

### 2.2 Label elements

#### Labelling according Regulation (EC) No 1272/2008

Pictogram



Signal word

Danger

Hazard statement(s)

|             |  |
|-------------|--|
| H226        | Flammable liquid and vapour.             |
| H301 + H311 | Toxic if swallowed or contact with skin. |
| H314        | Causes severe skin burns and eye damage. |
| H317        | May cause an allergic skin reaction.     |
| H330        | Fatal if inhaled.                        |
| H335        | May cause respiratory irritation.        |

|      |                                       |
|------|---------------------------------------|
| H341 | Suspected of causing genetic defects. |
| H350 | May cause cancer.                     |
| H370 | Causes damage to organs.              |

## Precautionary statement(s)

|                    |   |
|--------------------|---|
| P203               | Obtain, read and follow all safety instructions before use.   |
| P210               | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.                                    |
| P240               | Ground and bond container and receiving equipment.  |
| P260               | Do not breathe fume/gas/mist/vapours/spray.   |
| P262               | Do not get in eyes, on skin, or on clothing.  |
| P264               | Wash hand thoroughly after handling.  |
| P270               | Do not eat, drink or smoke when using this product.   |
| P272               | Contaminated work clothing should not be allowed out of the workplace.  |
| P280               | Wear protective gloves/protective clothing/eye protection/face protection.  |
| P301 + P330 + P331 | IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  |
| P302 + P361 + P354 | IF ON SKIN (or hair): Take off immediately all contaminated clothing. Immediately rinse with water for several minutes.           |
| P304 + P340        | IF INHALED: Remove person to fresh air and keep comfortable for breathing.  |
| P305 + P354 + P338 | IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P308 + P316        | IF exposed or concerned: Get emergency medical help immediately.  |
| P330               | Rinse mouth.  |

**2.3 Other hazards** None

### SECTION 3: Composition/information on ingredients

#### 3.1 Substances

Not applicable

#### 3.2 Mixture

##### Formaldehyde

Synonyms Formaline solution, Methanal solution, Methylaldehyde solution, Oxomethane, Oxymethylene, Methylene oxide, Formic aldehyde.

|         |           |              |         |                  |          |
|---------|-----------|--------------|---------|------------------|----------|
| CAS-No  | EC-No     | EC-Index-No  | Formula | Molecular Weight | Weight % |
| 50-00-0 | 200-001-8 | 605-001-00-5 | HCHO    | 30.03 g/mol      | 37       |

#### Hazardous ingredients according to Regulation (EC) No 1272/2008

| Component    | CAS-No  | Formula | Concentration (%) | Classification  |
|--------------|---------|---------|-------------------|---|
| Formaldehyde | 50-00-0 | HCHO    | 37                | Flammable liquid and vapour (Category 3), H226<br>Acute toxicity, Oral (Category 3), H301<br>Acute toxicity, Inhalation (Category 2), H330<br>Acute toxicity, Dermal (Category 3), H311<br>Skin corrosion (Category 1B), H314<br>Serious eye damage (Category 1), H318<br>Skin sensitisation (Category 1), H317<br>Germ cell mutagenicity (Category 2), H341<br>Carcinogenicity (Category 1B), H350<br>Specific target organ toxicity - single exposure (Category 1), H370<br>Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335 |

**Hazardous ingredients according to Regulation (EC) No 1272/2008 (Continue)**

| Component                | CAS-No    | Formula            | Concentration (%) | Classification  |
|--------------------------|-----------|--------------------|-------------------|---|
| Methanol<br>(Stabilized) | 67-56-1   | CH <sub>3</sub> OH | 10-15             | Flammable liquids (Category 2), H225<br>Acute toxicity, Oral (Category 3), H301<br>Acute toxicity, Inhalation (Category 3), H331<br>Acute toxicity, Dermal (Category 3), H311<br>Specific target organ toxicity - single exposure<br>(Category 1), Eyes, H370 |
| Water                    | 7732-18-5 | H <sub>2</sub> O   | 48-53             | -   |

For the full text of the H-Statements mentioned in this Section, see Section 16

**SECTION 4: First aid measures****4.1 Description of first aid measures**

|                |   |
|----------------|---|
| General advice | Show this safety data sheet to the doctor in attendance.  |
| Inhalation     | Move to fresh air in case of accidental inhalation of vapors. Keep patient warm. In case of shortness of breath, give oxygen. Apply artificial respiration only if patient is not breathing or under medical supervision. No artificial aspiration mouth to mouth or mouth to nose. Use suitable instruments/apparatus.   |
| Skin contact   | Remove contaminated clothing and wash affected skin with soap and water. If signs of poisoning appear, treat as for inhalation. Wash contaminated clothing before reuse.  |
| Eye contact    | Contaminated combustible material, e.g. clothing ignites more readily and burns fiercely. If the substance has got into the eyes, immediately wash out with plenty of water at least 15 minutes. Obtain medical attention.  |
| Ingestion      | Rinse mouth. Do not induce vomiting. Keep patient warm. In case of shortness of breath, give oxygen. Apply artificial respiration only if patient is not breathing or under medical supervision. No artificial aspiration mouth to mouth or mouth to nose. Use suitable instruments/apparatus. Obtain medical attention. Never give anything by mouth to an unconscious person. |

**4.2 Most important symptoms and effects, both acute and delayed**

The most important known symptoms and effects are described in section 2.2 and section 11

**4.3 Indication of any immediate medical attention and special treatment needed**

Not Available.

**SECTION 5: Firefighting measures****5.1 Extinguishing media****Suitable extinguishing media**

Extinguish with carbon dioxide, dry chemical, foam or water spray. In the event of fire, cool tanks with water spray.

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

Vapors may form explosive mixture with air at ambient temperature. Flash back possible over considerable distance.

**5.3 Advice for firefighters**

Wear self-contained breathing apparatus and protective suit.

**5.4 Further information**

Standard procedure for chemical fires. Take measures to prevent electrostatic charging. Prevent firefighting water from entering surface water or groundwater.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Evacuate personnel to safe areas. Do not breathe vapors or spray mist. Remove all sources of ignition. Wear a positive-pressure supplied-air respirator, flame retardant antistatic protective clothing. Shut off leaks if without risk. Keep people away from and upwind of spill/leak.

### 6.2 Environmental precautions

Contain or absorb leaking liquid with sand or earth, consults an expert. Prevent liquid entering sewers, basements and workpits. If substance has entered a water course or sewer or contaminated soil, advise police.

### 6.3 Methods and materials for containment and cleaning up

Spillage: May react with combustible substances creating fire or explosion hazard and formation of toxic fumes. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Soak up with inert absorbent material (e.g. sand, silica gel or chemical absorbent pads). Prevent liquid entering sewers, basements and workpits; vapor may create explosive atmosphere. Transfer to covered steel drums. Dispose of promptly.

### 6.4 Reference to other sections

For disposal see **Section 13**.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Keep container tightly closed. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Use only in area provided with appropriate exhaust ventilation. Do not breathe vapors or spray mist. Avoid contact with skin, eyes and clothing. Do not empty into drains.

### 7.2 Conditions for safe storage, including any incompatibilities

Keep tightly closed in a dry, cool and well-ventilated place. Keep away from heat and sources of ignition. Keep out of direct sunlight and away from incompatible materials. Store in original container. Electrical equipment should be protected to the appropriate standard.

**Storage class 3 (TRGS 510);** Flammable liquids.

### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

### 8.2 Exposure controls

#### Appropriate engineering controls

The product should only be used in areas from which all naked lights and other sources of ignition have been excluded. Ventilation hoods and fans required when working with organic solvents or in hot melt applications.

#### Individual protection measures (Personal protective equipment, PPE)

##### Eye/face protection

Goggles giving complete protection to eyes.

##### Skin protection

Chemical resistant apron / flame retardant antistatic protective clothing, heavy duty work shoes.

Handle with gloves

- Full contact wears gloves from nitrile rubber material.
- Splash contact wears gloves from polychloroprene material.

The select protective gloves have to satisfy the specifications of EU Directive 89/686 EEC and standard EN 374 derived from it.

#### Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment. Required when vapor/aerosols are generated filter AX (EN 371).

#### Environmental exposure controls

Prevent liquid entering sewers, basements and workpits.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

|   |  |
|---|--|
| Physical State                          | Liquid   |
| Color                                   | Colorless  |
| Odor                                    | Pungent  |
| Odor Threshold                          | Not Available  |
| pH                                      | 2.8 - 4.0 at 20°C  |
| Melting point/range                     | <-15 °C  |
| Boiling point/range                     | 93-96 °C   |
| Flash point                             | 56 °C (closed cup)                                       |
| Evaporation rate                        | Not Available  |
| Flammability (solid, gas)               | Not Available  |
| Explosion limits: lower                 | 7 %(V) (on formaldehyde)                                 |
| upper                                   | 73 %(V) (on formaldehyde)                                |
| Vapor Pressure                          | 1.3 hPa at 20°C  |
| Relative vapor density                  | 1.0  |
| Density                                 | 1.090 g/ml at 20°C                                       |
| Water solubility                        | Soluble at 20°C  |
| Partition coefficient (n-octanol/water) | Not Available  |
| Auto-Ignition temperature               | Not Available  |
| Decomposition Temperature               | 150 °C (on formaldehyde)                                 |
| Viscosity                               | 0.597 mPa.s at 20°C                                      |
| Explosive properties                    | Not Explosive  |
| Oxidizing properties                    | The substance or mixture is not classified as oxidizing. |

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Reducing agent tends to polymerize.

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

Risk of explosion in contact with nitric acid, hydrogen peroxide, nitromethane, performic acid, peracetic acid, phenol, nitrogen dioxide (180 °C).

The substance can react dangerously with: strong oxidizing agents, furfuryl alcohol, potassium permanganate, magnesium carbonate, sodium hydroxide, perchloric acid + aniline, hydrochloric acid.

The substance can react dangerously alkalies, nitrides, polymerization initiators.

### 10.4 Conditions to avoid

Heating.

**10.5 Incompatible materials**

Polymerization initiators, alkali metals, acid, nitrogen oxides, hydrogen peroxide, oxidizing agents, performic acid, phenol.

Unsuitable working materials: Various metals and various alloys.

**10.6 Hazardous decomposition products**

Carbon monoxides, Carbon dioxides, (Hazardous decomposition products from under fire condition).

**SECTION 11: Toxicological information****11.1 Information on toxicological effects****Mixture****Acute toxicity**

LD<sub>50</sub> (oral, rat): 100 mg/kg (formaldehyde).

LD<sub>50</sub> (dermal, rabbit): 270 mg/kg (formaldehyde).

LC<sub>50</sub> (inhalation, rat): 0.578 mg/l /4h (formaldehyde).

**Skin corrosion/irritation**

Burn, risk of skin sensitization.

**Serious eye damage/eye irritation**

Burn, lacrimal irritation due to vapors.

**Respiratory or skin sensitization**

Causes sensitization.

**Germ cell mutagenicity**

Evidence of genetic defects.

**Carcinogenicity**

Owing possible carcinogenic effects for man.

**Reproductive toxicity**

No impairment of reproductive performance in animal experiments.

**Specific target organ toxicity (STOT) - single exposure**

Causes damage to organs (Eyes).

**Specific target organ toxicity (STOT) - repeated exposure**

Not Available

**Aspiration hazard**

Not Available

**Further information**

Systemic effects; narcosis and blindness.

The product should be handled with the care usual when dealing with chemicals.

**SECTION 12: Ecological information****Mixture****12.1 Toxicity**

Toxicity to fish

LC<sub>50</sub> P. promelas : 24 mg/l/96h (formaldehyde).

LC<sub>50</sub> Danio rerio : 41 mg/l/96h (formaldehyde).

Toxicity to daphnia

EC<sub>50</sub> Daphnia magna : 2 mg/l/48h (formaldehyde).

and other aquatic invertebrates

Toxicity to algae

IC<sub>5</sub> Sc.quadricauda: 2.5 mg/l/8d (formaldehyde)

Toxicity to bacteria

EC<sub>50</sub> Photobacterium phosphoreum : 8.5 mg/l/30min (formaldehyde).

EC<sub>5</sub> M.aeruginosa : 0.39 mg/l /8d (formaldehyde).

## 12.2 Persistence and degradability

Biodegradability 97.4% /5d, Readily biodegradable.

## 12.3 Bioaccumulative potential

Partition coefficient (n-octanol/water) Not Available

## 12.4 Mobility in soil

Not Available

## 12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

## 12.6 Other adverse effects

Toxic for aquatic organisms. Protoplasmic toxin. Caustic even in diluted form. Disinfectant effect. Toxic effect on fish and plankton. Sludge decomposition impaired or not possible even in diluted concentration. Endangers drinking water supplies if allowed to enter soil and/or waters in large quantities.

Do not allow to enter waters, waste water or soil.

# SECTION 13: Disposal considerations

## 13.1 Waste treatment methods

### Product

There are no uniform EC Regulations for the disposal of chemicals or residues. Chemical residues generally count as special waste. The disposal of the latter is regulated in the EC member countries through corresponding law and regulations. We recommend that you contact either the authorities in charge or approved waste disposal companies which will advise you on how to dispose of special waste or burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Observe all federal, state, and local environmental regulations.

### Contaminated packaging

Disposal in compliance with official regulations. Handle contaminated packaging as hazardous waste in the same way of the substance itself. If not officially specified differently, non-contaminated packaging may be treated like household waste or recycled.

# SECTION 14: Transport information

## Land Transport (ADR/RID)

|                              |                                  |
|------------------------------|----------------------------------|
| UN Number                    | 1198                             |
| UN proper shipping name      | FORMALDEHYDE SOLUTION, FLAMMABLE |
| Transport hazard class(es)   | 3 (8)                            |
| Packing group                | III                              |
| Environmental hazards        | No                               |
| Special precautions for user | Yes                              |

## Sea transport (IMDG)

|                            |                                  |
|----------------------------|----------------------------------|
| UN Number                  | 1198                             |
| UN proper shipping name    | FORMALDEHYDE SOLUTION, FLAMMABLE |
| Transport hazard class(es) | 3 (8)                            |
| Packing group              | III                              |
| Marine pollutant           | No                               |

|                              |         |
|------------------------------|---------|
| Special precautions for user | Yes     |
| EmS                          | F-E S-C |

**Air transport (IATA)**

|                              |                                  |
|------------------------------|----------------------------------|
| UN Number                    | 1198                             |
| UN proper shipping name      | FORMALDEHYDE SOLUTION, FLAMMABLE |
| Transport hazard class(es)   | 3 (8)                            |
| Packing group                | III                              |
| Environmental hazards        | No                               |
| Special precautions for user | No                               |

**River transport (AND/ADNR)**

(Not examined)

**SECTION 15: Regulatory information**

This safety datasheet complies with the requirements of Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

**15.1 Safety, health and environmental regulations/legislation specific for the substance or Mixture**

Not Available

**15.2 Chemical Safety Assessment**

For this product a chemical safety assessment was not carried out.

**SECTION 16: Other information****Recommended restrictions**

Take notice of labels and safety data sheets for the working. Chemicals Take necessary action to avoid static electricity discharge.

**Reference**

Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

Labelling according to EC Directives 67/548 EEC and Regulation (EC) No 1272/2008.

Transportation information according to Recommendations on the Transport of Dangerous Goods, Model Regulations. Twelfth revised edition. United Nations.

Institute for Occupational Safety and Health of the German Social Accident Insurance in Sankt Augustin/Germany, Source: IFA for Databases on hazardous substances (GESTIS).

**Further information**

Contact to RCI Labscan Limited.

**Revision Date**

10/04/2025

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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 given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process unless specified in the text.