

**SAFETY DATA SHEET  
FORMALDEHYDE**

**CATALOG #'s 1008, 1010, 1011**

**1. IDENTIFICATION**

**Product name:** FORMALDEHYDE

**COMPANY IDENTIFICATION**

TOUSIMIS RESEARCH CORP.  
2211 LEWIS AVENUE  
ROCKVILLE,  
MARYLAND 20851  
UNITED STATES

**Company Contact Information:**

301-881-2450

[trc@tousimis.com](mailto:trc@tousimis.com)

**EMERGENCY TELEPHONE NUMBER**

**24-Hour Emergency Contact: 1-800-222-1222**

**2. HAZARDS IDENTIFICATION**

**Hazard classification**

**GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)**

Flammable solids (Category 2), H228

Acute toxicity, Oral (Category 4), H302

Acute toxicity, Inhalation (Category 4), H332

Skin irritation (Category 2), H315

Serious eye damage (Category 1), H318

Skin sensitization (Category 1), H317

Carcinogenicity (Category 2), H351

Specific target organ toxicity – single exposure (Category 3), Respiratory system, H335

Acute aquatic toxicity (Category 3), H402

Chronic aquatic toxicity (Category 3), H412

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

**GHS Label elements, including precautionary statements**

**Pictograms**



**Hazard statement(s)**

H228 Flammable solid.  
H302 + H332 Harmful if swallowed or if inhaled  
H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.  
H318 Causes serious eye damage.  
H335 May cause respiratory irritation.  
H351 Suspected of causing cancer.  
H412 Harmful to aquatic life with long lasting effects.

**Precautionary statement(s)**

P201 Obtain special instructions before use.  
P202 Do not handle until all safety precautions have been read and understood.  
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.  
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
P264 Wash skin thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P271 Use only outdoors or in a well-ventilated area.  
P272 Contaminated work clothing should not be allowed out of the workplace.  
P273 Avoid release to the environment.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P301 + P312 IF SWALLOWED; Call a POISON CENTER or doctor/physician if you feel unwell  
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.  
P304 + P 340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P310 Immediately call a POISON CENTER or doctor/physician  
P321 Specific treatment (see supplemental first aid instructions on this label).  
P330 Rinse mouth.  
P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.  
P362 Take off contaminated clothing and wash before reuse.  
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.  
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.  
P405 Store locked up.  
P501 Dispose of contents/container to an approved waste disposal plant.

**Hazards not otherwise classified (HNOC) or not covered by GHS**

Combustible dust

**3. COMPOSITION/INFORMATION ON INGREDIENTS****Substances****Synonyms**

Polyoxymethylene

**Formula**

$\text{CH}_2\text{O}]_n$

**Molecular Weight**

30.03g/mol

**CAS-No.**

30525-89-4

## **Hazardous components**

### **Paraformaldehyde**

Classification: Flam. Sol. 2; Acute Tox. 4; Skin Irrit. 2; Eye Dam. 1; Skin Sens. 1; Carc. 2; STOT SE 3; Aquatic Acute 3; Aquatic Chronic 3; H228, H302 + H332, H315, H317, H318, H335, H351, H412

Concentration: 90-100%

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

## **4. FIRST AID MEASURES**

### **Description of first aid measures**

#### **General Advice**

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

#### **If inhaled**

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

#### **In case of skin contact**

Wash off with soap and plenty of water. Consult a physician.

#### **In case of eye contact**

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

#### **If swallowed**

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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

The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11.

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

No data available

## **5. FIREFIGHTING MEASURES**

### **Extinguishing media**

**Suitable extinguishing agents** Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

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

Carbon oxides

### **Advice for firefighters**

Wear self-contained breathing apparatus for fire-fighting if necessary.

### **Further information**

Use water spray to cool unopened containers.

## **6. ACCIDENTAL RELEASE MEASURES**

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

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

### **Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

**Methods and material for containment and cleaning up:** Sweep up and shovel. Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal. Contain spillage, pick up with an electrically protected vacuum cleaner or by wet-brushing and transfer to a container for disposal according to local regulations (see section 13).

### **Reference to other sections**

For disposal see section 13.

## **7. HANDLING AND STORAGE**

### **Precautions for safe handling**

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs.

Provide appropriate exhaust ventilation at places where dust is formed. Keep away from sources of ignition – No smoking. Take measures to prevent the build-up of electrostatic charge.

For precautions see section 2.

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

Keep container tightly closed in a dry and well-ventilated place.

Handle and store under inert gas. Moisture sensitive. Keep in a dry place.

### **Specific end use(s)**

Apart from the uses mentioned in section 1 no other specific uses are stipulated

## **8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

### **Control parameters**

#### **Components with workplace control parameters**

Contains no substances with occupational exposure limit values.

### **Exposure controls**

#### **Appropriate engineering controls**

Handle in accordance with good industrial and safety practice. Wash hands before breaks and at the end of workday.

### **Personal protective equipment**

#### **Eye/face protection**

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).

#### **Skin protection**

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

#### Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

#### Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail [sales@kcl.de](mailto:sales@kcl.de), test method:

EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar

with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

### **Body protection**

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

### **Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

### **Control of environmental exposure**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

## **9. PHYSICAL AND CHEMICAL PROPERTIES**

### **Information on basic physical and chemical properties**

#### **General Information**

#### **Appearance**

<b>Form</b>	Powder
<b>Smell</b>	pungent
<b>Odor Threshold</b>	No data available
<b>pH</b>	4.0-5.5
<b>Melting point/range</b>	120-170°C (248-338°F) – lit.
<b>Boiling point/range</b>	No data available
<b>Flash point</b>	70°C (158°F) – closed cup
<b>Evaporation rate</b>	No data available
<b>Flammability (solid, gas)</b>	May form combustible dust concentrations in air
<b>Upper/lower flammability or explosive limits</b>	No data available
<b>Vapour pressure</b>	No data available
<b>Vapour density</b>	No data available
<b>Relative density</b>	0.88 g/cm <sup>3</sup> at 25°C (77°F)
<b>Water solubility</b>	insoluble
<b>Partition coefficient: n-</b>	

<b>octanol/water</b>	No data available
<b>Auto-ignition temperature</b>	No data available
<b>Decomposition temperature</b>	No data available
<b>Viscosity</b>	No data available
<b>Explosive properties</b>	No data available
<b>Oxidizing properties</b>	No data available

**Other safety information**

Bulk density 500-800 kg/m<sup>3</sup>

## 10. STABILITY AND REACTIVITY

**Reactivity:** No data available

**Chemical stability:** Stable under recommended storage conditions.

**Possibility of hazardous reactions:** No data available

**Conditions to avoid**

Exposure to moisture.

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

**Incompatible materials:**

Brass, Steel (all types and surface treatments), Copper, Acid anhydrides, Strong oxidizing agents, Strong reducing agents

**Hazardous decomposition products:**

Other decomposition products – No data available

In the event of fire: see section 5

## 11. TOXICOLOGICAL INFORMATION

*Toxicological information on this product or its components appear in this section when such data is available.*

**Information on toxicological effects**

**Acute toxicity:**

LD50 Oral – Rat – 592 mg/kg

LC50 Inhalation – Rat – 4 h – 1,070 mg/m<sup>3</sup>

Remarks: Sense Organs and Special Senses (Nose, Eye, Ear, and Taste): Eye: Lacrimation. Lungs,

Thorax, or Respiration: Dyspnea.

LDLO Dermal – Rat – 10,000 mg/kg

No data available

**Skin corrosion/irritation**

No data available

**Serious eye damage/eye irritation**

Eyes – Rabbit

Result: Severe eye irritation

**Respiratory or skin sensitization**

No data available

**Germ cell mutagenicity:** No data available

**Carcinogenicity**

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**Reproductive toxicity:** No data available

**Specific target organ system toxicity – repeated exposure:** No data available

**Specific target organ system toxicity – single exposure:** Inhalation – May cause respiratory irritation.

**Aspiration hazard:** No data available

**Additional toxicological information**

RTECS: RV0540000

May cause permanent eye injury.

Liver – Irregularities – Based on Human Evidence



## 12. ECOLOGICAL INFORMATION

*Ecotoxicological information on this product or its components appear in this section when such data is available.*

### **Toxicity**

Toxicity to daphnia and EC50 – Daphnia magna (Water flea) – 42 mg/l – 24 h  
other aquatic  
invertebrates

### **Persistence and degradability**

No data available

Ratio BOD/ThBOD 37%

### **Bioaccumulative potential**

No data available

### **Mobility in soil**

No data available

### **Results of PBT and vPvB assessment**

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

**Other adverse effects:** An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.  
Harmful to aquatic life.

## 13. DISPOSAL CONSIDERATIONS

### **Waste treatment methods**

#### **Product**

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

#### **Contaminated packaging**

Dispose of as unused product.

## 14. TRANSPORT INFORMATION

### **DOT (US)**

UN number: 2213

Class 4.1

Packing group: III

Proper shipping name: Paraformaldehyde  
Reportable Quantity (RQ): 1000 lbs  
Marine pollutant: No  
Poison Inhalation Hazard: No

**IMDG**

UN number: 2213  
Class 4.1  
Packing group: III  
EMS-No: F-A, S-G  
Proper shipping name: PARAFORMALDEHYDE  
Marine pollutant: No

**IATA**

UN number: 2213  
Class 4.1  
  
Packing group: III  
EMS-No: F-A, S-G  
Proper shipping name: PARAFORMALDEHYDE

**15. REGULATORY INFORMATION**

**SARA 302 Components**

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

**SARA 313 Components**

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**SARA 311/312 Hazards**

Fire Hazard, Acute Health Hazard, Chronic Health Hazard

**Massachusetts Right To Know Components**

Paraformaldehyde  
CAS-No. 30525-89-4

**Pennsylvania Right To Know Components**

Paraformaldehyde  
CAS-No. 30525-89-4

**New Jersey Right To Know Components**

Paraformaldehyde

**California Prop. 65 Components**

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

**16. OTHER INFORMATION**

**Full text of H-Statements referred to under sections 2 and 3.**

Acute Tox.	Acute toxicity
Aquatic Acute	Acute aquatic toxicity
Aquatic Chronic	Chronic aquatic toxicity
Carc.	Carcinogenicity
Eye Dam.	Serious eye damage
Flam. Sol.	Flammable solids
H228	Flammable solid
H302	Harmful if swallowed
H302 + H332	Harmful if swallowed or if inhaled
H315	Causes skin irritation
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.

**HMIS Rating**

Health hazard:	2
Chronic Health Hazard	
Flammability:	2
Physical Hazard	2

**NFPA Rating**

Health hazard:	2
Fire Hazard:	2
Reactivity Hazard:	2

**Further information**

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