

# Material Safety Data Sheet (MSDS)

## Test liquids TL1, TL2, TL3 & TL4

Document date January 26, 2018

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

#### 1.1 Product identifier

Product name: TL1, TL2, TL3 & TL4 Test liquids  
Product use: To test fluidic and flow properties in a device  
Description: A liquid solution that has fluid properties similar to:  
TL1: Water but with a strong blue dye for visualization.  
TL2: Blood plasma.  
TL3: Whole blood with 45% hematocrit.  
TL4: Whole blood with 70% hematocrit.

**The product is for professional use only**

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

Identified uses: Test liquid to evaluate the fluidic and flow properties in a flow- or medical device.  
Uses advised against: These test liquids have fluidic properties similar to whole blood and blood plasma, but they don't have any of blood's properties, and thus they should never be used as a blood replacement in the body.

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

Manufacturers name: Jonsman Innovation ApS  
Hovedvejen 1d  
3330 Gørløse  
Denmark  
Phone: (+45) 40624345  
E-mail: [info@joninn.com](mailto:info@joninn.com)  
Web: [www.joninn.com](http://www.joninn.com)

#### **1.4 Emergency telephone number**

Manufacturers telephone number: (+45) 40624345

## **SECTION 2: Hazards identification**

This product is not considered to be hazardous.

### **2.1 Classification of the substance or mixture**

Product definition:	Mixture
Physical/chemical hazards:	None.
Adverse human health effects:	Not expected
Environmental hazard:	Not expected

### **2.2 Label elements**

<b>Hazard symbol or symbols:</b>	None
<b>Indication of danger:</b>	None
<b>Risk phrases:</b>	None
<b>Safety phrases:</b>	S2-Keep out of reach of children S7-Keep container tightly closed S26-In case of contact with eyes, rinse with plenty of water.

### **2.3 Other hazards**

**Other hazards which do not result in classification:** Not applicable

## **SECTION 3: Composition/information on ingredients**

### **3.2 Mixtures**

A mixture of water and 2% non-hazardous solids. All ingredients are approved food additives, and are thus safe for human consumption, but we don't recommend doing so.

There are no ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

## **SECTION 4: First aid measures**

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

**Eye contact:** Immediately flush eyes with plenty of water. Get medical attention if adverse health effects occur.

**Inhalation:** Remove victim to fresh air and keep at rest in a position comfortable for breathing. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

**Skin contact:** Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse.

**Ingestion:** Wash out mouth with water.

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

#### **Potential acute health effects:**

Inhalation: No known significant effects or critical hazards.

Ingestion: No known significant effects or critical hazards.

Skin contact: No known significant effects or critical hazards.

Eye contact: No known significant effects or critical hazards.

#### **Over-exposure signs/symptoms**

**Inhalation of fumes:** No known significant effects or critical hazards.

**Eye contact:** Rare adverse symptoms may be irritation.

**Skin contact:** No known significant effects or critical hazards.

**Ingestion:** No known significant effects or critical hazards.

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

**Notes to physician:** Treat symptomatically.

**Specific treatments:** No specific treatment

## **SECTION 5: Firefighting measures**

TL1, TL2, TL3 and TL4 are 98% water and thus cannot burn and will extinguish a fire like pure water.

### **5.1. Extinguishing media**

#### **Unsuitable extinguishing media**

In the presence of TL1, TL2, TL3 and TL4 any water compatible extinguishing media can be used.

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

#### **Hazardous combustion products**

If the water in TL1, TL2, TL3 and TL4 solution is completely evaporated, the remaining will burn and form Carbon dioxide and water.

#### **Unusual Fire & Explosion Hazards**

No data available.

#### **Specific hazards**

No data available.

### **5.3. Advice for firefighters**

#### **Special Fire Fighting Procedures**

No special procedures needed.

#### **Protective equipment for fire-fighters**

No special equipment needed.

## **SECTION 6: Accidental release measures**

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

Avoid ingestion and inhalation and contact with skin and eyes. Restrict access to the area until the spillage is treated.

TL1, TL2, TL3 and TL4 are quite safe and the worst risk is drowning in it.

### **6.2. Environmental precautions**

Avoid unauthorized discharge to the environment. Do not discharge into drains, water courses or onto the ground. Clean up any spillages immediately and prevent material from spreading and entering drains or sewage systems.

### **6.3. Methods and material for containment and cleaning up**

Small Spillages: Absorb with inert material. Large Spillages: Dam and absorb spillages with sand, earth or other inert material. Fit drain covers where they are available if the spillage is likely to enter the drainage system. Collect spillage in containers, seal securely and deliver for disposal according to local regulations. Containers with collected spillage must be properly labelled with correct contents. Wash spillage site well with water and detergent, be aware of the potential for surfaces to become slippery. Wash thoroughly after dealing with a spillage.

### **6.4. Reference to other sections**

Refer to sections 8 and 13 for additional information

## **SECTION 7: Handling and storage**

### **7.1. Precautions for safe handling**

Avoid spilling, skin and eye contact. Avoid inhalation of vapors and spray mists. Do not mix with incompatible substances or mixtures. Do not eat, drink or smoke when handling. Do not dispose of the substance to the environment through unauthorized means. Do not discharge to land or water including the drainage system. Ensure emergency procedures are in place to treat spillages.

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

Store in closed original container at temperatures between 4°C and 30°C. Store away from heat, direct sunlight. Store away from incompatible materials. Store in a stable situation to avoid spillages. It is advisable to store in a bunded area or use other protective measures such as a sump pallet or storage tray. If the substance is transferred to other containers ensure the packaging material is compatible. Consult with the packaging manufacturer or supplier. Do not leave storage containers exposed to the atmosphere as this will result in evaporation of contents.

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

The identified uses for this product are detailed in Section 1.2.

## **SECTION 8: Exposure control/personal protection**

### **8.1. Control parameters**

No data available.

### **8.2. Exposure controls**

#### **Engineering measures**

Provide adequate ventilation in cases where the water in the TL1, TL2, TL3 and TL4 will evaporate due to high use temperature.

#### **Respiratory equipment**

No respiratory equipment needed.

#### **Hand protection**

Wear protective gloves.

#### **Eye protection**

Wear approved chemical safety goggles.

**Hygiene measures**

Remove clothing when contamination will result in exposure to the substance, segregate and wash before re-use. Do not eat, drink or smoke in the work area. Wash hands at the end of each work shift and before eating, smoking and using the toilet. Remove contaminated clothing when entering eating areas or other places that could lead to contamination of others with the product.

**SECTION 9: Physical and chemical properties**

Appearance:

TL1: Dark blue liquid

TL2: Yellow liquid

TL3: Red liquid

TL4: Red liquid

Specific Gravity: 1.0 g/ml

Volatiles by volume @ 21°C: 99%

Boiling Point: 100°C

**SECTION 10: Stability and reactivity****Stability:**

Stable under ordinary conditions of use and storage. Heat and sunlight can contribute to instability.

**Hazardous Decomposition Products:**

Carbon dioxide and carbon monoxide may form when all water is evaporated and the remaining solids are heated to decomposition.

**Hazardous Polymerization:**

Will not occur.

**Incompatibilities:**

Strong oxidizers, acids, chlorine, hydrogen peroxide.

**Conditions to Avoid:**

Heat, flames, UV radiation and incompatibles.

## **SECTION 11: Toxicological information**

### **Acute toxicity**

Oral : LD50 ( rat ) : > 100 g/kg  
Dermal : LD50 ( rat ) : No data available.  
Inhalation : LC50 ( rat ) : No data available.  
Dermal irritation (rabbit) : Not irritant.  
Eyes irritation (rabbit) : Not irritant.  
Sensitization : This material was found to be non-sensitising in guinea pigs.  
Mutagenicity : Non-mutagenic.  
Teratogenicity : Not teratogenic  
Carcinogenicity: Not carcinogenic

## **SECTION 12: Ecological information**

### **Environmental Fate:**

When released into the soil;

99% of this material is expected to quickly evaporate.  
1% of this this material will biodegrade fully.

When released to water;

99% of this material is water so this is fully compatible.  
1% of this this material will biodegrade fully.

When released into the air;

99% of this material is water so this will evaporate into the air.  
1% of this this material is insoluble in air and will thus condense on solid surfaces.

### **Environmental Toxicity:**

This material is fully biocompatible and will not harm land or aquatic life.  
This material is not expected to significantly bioaccumulate.

## **SECTION 13: Disposal considerations**

Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to an approved incinerator or disposed in an approved waste facility. Processing, use or contamination of this product may change the waste management options. Local disposal regulations may differ from what is described in this document, always follow local law and regulations. Dispose of container and unused contents in accordance with local requirements.

## **SECTION 14: Transport information**

IATA:

Proper shipping name: Water solution

## **SECTION 15: Regulatory information**

Not regulated.

## **SECTION 16: Other information**

Date of issue: 26. January 2018. Replaces previous version dated: 6. May 2015. Reason for change is the addition of TL4.