

# MATERIAL SAFETY DATA SHEET

## SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

<b>Product name:</b>	Mouse Th1/Th2 Flow Cytometry Staining Kit
<b>Cat. No:</b>	XJM001
<b>Application:</b>	For research use only

## SECTION 2 HAZARDS IDENTIFICATION

Items	Physical form	Hazardous Ingredient	Concentration	CAS No.
XJM001A XJM001B	Odorless and colorless, liquid	Proclin 300	0.04%	96118-96-6
E-CK-A011	Odorless and white, Powder	No Hazards	—	—
E-CK-A012	Odorless and colorless, liquid	dimethyl sulfoxide	2.8%	67-68-5
E-CK-A013	Odorless and white, Powder	No Hazards	—	—
E-CK-A109A	Odorless and colorless, liquid	Paraformaldehyde	4%	30525-89-4
E-CK-A109B	Odorless and colorless, liquid	No Hazards	—	—

### 2.1 HAZARD STATEMENT

Classification according to GHS

#### 2.1.1 Proclin 300

H302: Harmful if swallowed.

H312: Harmful in contact with skin.

H314: Causes severe skin burns and eye damage.

H317: May cause an allergic skin reaction.

H332: Harmful if inhaled.

H400: Very toxic to aquatic life.

#### 2.1.2 Dimethyl sulfoxide

H227 - Combustible liquid.

H320: Causes eye irritation.

#### 2.1.3 Paraformaldehyde

H302: Harmful if swallowed.

H317: May cause an allergic skin reaction.

H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.

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H341: Suspected of causing genetic defects.

H350i: May cause cancer by inhalation.

H360: May damage fertility or the unborn child.

H410: Very toxic to aquatic life with long lasting effects.

## 2.2 PRECAUTION STATEMENT

Classification according to GHS

### 2.2.1 Proclin 300

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

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

P301 + P312 + P330: IF SWALLOWED, call a POISON CENTER/doctor; if you feel unwell, Rinse mouth.

P303 + P361 + P353: IF ON SKIN (or hair), take off immediately all contaminated clothing, Rinse skin with water/shower.

P304 + P340 + P310: IF INHALED, remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.

P305 + P351 + P338: IF IN EYES, rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

### 2.2.2 Dimethyl sulfoxide

P261 - Avoid breathing dust/fume/gas/mist/vapours/spray

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

P210 - Keep away from flames and hot surfaces. - No smoking.

P403 - Store in a well-ventilated place.

P235 - Keep cool.

P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

P370 + P378 - In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction

P303 + P361 + P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

### 2.2.3 Paraformaldehyde

P261 - Avoid breathing dust/fume/gas/mist/vapours/spray

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

P201 - Obtain special instructions before use

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

P273 - Avoid release to the environment

P264 - Wash hands thoroughly after handling

P272 - Contaminated work clothing should not be allowed out of the workplace

P202 - Do not handle until all safety precautions have been read and understood

P270 - Do not eat, drink or smoke when using this product

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P308 + P313 - IF exposed or concerned: Get medical advice/attention

P308 + P311 - IF exposed or concerned: Call a POISON CENTER or doctor

P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention

P310 - Immediately call a POISON CENTER or doctor/physician

P362 + P364 - Take off contaminated clothing and wash it before reuse

## SECTION 3 INFORMATION ON INGREDIENTS

## 3.1 XJM001A、XJM001B

Ingredient	Concentration	CAS No.	EC No.
Proclin 300	0.04%	--	--
Water	98.995%	7732-18-5	231-791-2
Sodium chloride	0.8%	7647-14-5	232-598-3
Disodium hydrogen orthophosphate	0.115%	7558-79-4	231-448-7
Potassium chloride	0.02%	7447-40-7	231-211-8
Potassium dihydrogen orthophosphate	0.02%	7778-77-0	231-913-4

## 3.2 E-CK-A011

Ingredient	Concentration	CAS No.
Phorbol 12-myristate 13-acetate	2.58%	16561-29-8
Ionomycin calcium salt	3.85%	56092-82-1
Potassium chloride	32.72%	7447-40-7
Sodium chloride	60.85%	7647-14-5

## 3.3 E-CK-A012

Ingredient	Concentration	CAS No.
H <sub>2</sub> O	93.98%	7732-18-5
HEPES	2.4%	7365-45-9
Dimethyl sulfoxide	2.8%	67-68-5
Potassium dihydrogen phosphate	0.02%	7778-77-0
Sodium chloride	0.80%	7647-14-5

## 3.4 E-CK-A013

Ingredient	Concentration	CAS No.
Monensin sodium	0.78%	22373-78-0
Brefeldin A	1.20%	20350-15-6
Potassium dihydrogen phosphate	55.23%	7778-77-0
Sodium chloride	42.79%	7647-14-5

## 3.5 E-CK-A109A

Ingredient	Concentration	CAS No.
H <sub>2</sub> O	95.075%	7732-18-5
Tris hydrochloride	0.92%	1185-53-1
EDTA disodium salt	0.005%	6381-92-6
Paraformaldehyde	4%	30525-89-4

## SECTION 4 FIRST-AID MEASURES

Classification according to GHS

### 4.1 General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

### 4.2 If inhaled

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

### 4.3 In case of skin contact

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.

### 4.4 In case of eye contact

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

### 4.5 If swallowed

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

## SECTION 5 FIRE FIGHTING MEASURES

### 5.1 Suitable extinguishing media

Suitable: Water spray, alcohol-resistant foam, dry chemical, carbon dioxide or appropriate foam.

For small fires, use media such as "alcohol" foam, dry chemical or carbon dioxide.

For large fires, apply water from as far as possible. Use large quantities of water applied as a mist or spray. Solid streams of water may be ineffective. Cool affected containers with flooding quantities of water.

### 5.2 Special precautions for fire-fighters

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

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

Carbon oxides, Nitrogen oxides (NOx), Sulphur oxides, Hydrogen chloride gas.

## SECTION 6 ACCIDENTAL RELEASE MEASURES

### 6.1 Person-related safety precautions

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

### 6.2 Measures for environmental protection

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

### 6.3 Measures for containment and cleaning

Contain spillage, and then collect with non-combustible absorbent material (eg. sand, diatomaceous earth, vermiculite). Place in a container for disposal according to local regulations. Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal. 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.

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## SECTION 7 HANDLING AND STORAGE

### 7.1 Handling

Wear appropriate protective clothing and safety gloves.

Avoid inhalation.

Avoid contact with eyes, skin and clothing.

Mechanical exhaust required.

Keep away from ignition sources, heat and flame.

No smoking at working site.

Incompatibilities: Strong oxidizing agents, Strong acids. Handling and unloading should be light, to prevent packaging broken, damp and cause losses.

Working place should be equipped with appropriate varieties and quantities of fire fighting equipment and leakage emergency treatment equipment.

### 7.2 Storage

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

Keep away from heat, sparks and flame.

Keep away from sources of ignition.

Incompatible: Strong oxidizing agents, Strong acids.

Storage place should be equipped with appropriate varieties and quantities of fire fighting equipment and leakage emergency treatment equipment.

## SECTION 8 EXPOSURE CONTROL/PPE

### 8.1 Engineering Controls

Mechanical exhaust required. Safety shower and eye bath.

### 8.2 Personal Protective Equipment

Respiratory: Government approved respirator if needed.

Eye/face: Chemical safety goggles if needed.

Clothing: Wear appropriate protective clothing.

Hand/skin: Protective 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.

Body protection: Wear suitable protective clothing according to the concentration and amount of the substance at the workplace.

### 8.3 Other Protect

No smoking, drinking and eating at working site. Wash thoroughly after handling.

## SECTION 9 PHYSICAL/CHEMICAL PROPERTIES

### 9.1 Proclin 300

a) Appearance: Liquid

b) Odour: No data available

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- c) Odour threshold: No data available
- d) pH 4.1 at 100 g/L
- e) Melting point/freezing point: -40 °C
- f) Initial boiling point and boiling range: 189 °C
- g) Flash point: 118 °C - closed cup
- h) Evaporation rate: No data available
- i) Flammability (solid, gas): No data available
- j) Upper/lower flammability or explosive limits: No data available
- k) Vapour pressure: No data available
- l) Vapour density: No data available
- m) Relative density: 1.03 g/cm<sup>3</sup>
- n) Water solubility: Soluble
- o) Partition coefficient: noctanol/water: No data available
- p) Auto-ignition temperature: No data available
- q) Decomposition temperature: No data available
- r) Viscosity: No data available
- s) Explosive properties: No data available
- t) Oxidizing properties: No data available

### 9.2 Dimethyl sulfoxide

- a) Appearance: Colorless liquid
- b) Odor: Slight; Almost no odor
- c) Odor Threshold: No data available
- d) pH: 7.2
- e) Melting point/freezing point: 18.5°C (65.3°F)
- f) Initial boiling point and boiling range: 189°C (372.2°F)
- g) Flash point: Open cup: 87°C (188.6°F)
- h) Evaporation rate: 0.026 (butyl acetate = 1)
- i) Flammability (solid, gas): No data available
- j) Upper/lower flammability or explosive limits: Lower: 2.6%; Upper: 28.5%
- k) Vapor pressure: 0.056 kPa (0.42 mm Hg) [room temperature]
- l) Vapor density: 2.7 [Air = 1]
- m) Relative density: 1.1
- n) Water solubility: 1000 g/L
- o) Partition coefficient: -1.35
- p) Autoignition temperature: 300 to 302°C (572 to 575.6°F)
- q) Decomposition temperature: 140 to 189°C (284 to 372.2°F)
- r) Viscosity: Dynamic (room temperature): 2.14 mPa·s (2.14 cP)
- s) Explosive properties: No data available
- t) Oxidizing properties: No data available

### 9.3 Paraformaldehyde

- a) Appearance: colorless liquid
- b) Odor: No data available
- c) Odor Threshold: No data available

- d) pH: No data available
- e) Melting point/freezing point: No data available
- f) Initial boiling point and boiling range: No data available
- g) Flash point: No data available
- h) Evaporation rate: No data available
- i) Flammability (solid, gas): No data available
- j) Upper/lower flammability or explosive limits: No data available
- k) Vapor pressure: No data available
- l) Vapor density: No data available
- m) Relative density: No data available
- n) Water solubility: No data available
- o) Partition coefficient: No data available
- p) Autoignition temperature: not auto-flammable
- q) Decomposition temperature: No data available
- r) Viscosity: No data available
- s) Explosive properties: No data available
- t) Oxidizing properties: No data available

## SECTION 10 STABILITY AND REACTIVITY

### 10.1 Reactivity

No data available

### 10.2 Chemical stability

Stable under recommended storage conditions

### 10.3 Possibility of hazardous reactions

No data available

### 10.4 Conditions to avoid

Heat, flames and sparks

### 10.5 Incompatible materials

Strong oxidizing agent, Light sensitive, Alcohols, Organic materials, Heavy metals, Powdered metals, Strong reducing agents, Amines, Mercaptans.

### 10.6 Hazardous decomposition products

Other decomposition products: No data available

Hazardous decomposition products formed under fire conditions: Carbon oxides, Nitrogen oxides (NO<sub>x</sub>), Sulphur oxides, Hydrogen chloride gas.

## SECTION 11 TOXICOLOGICAL INFORMATION

### 11.1 Proclin 300

Acute toxicity

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LD<sub>50</sub> Oral - Rat - 862 mg/kg

LD<sub>50</sub> Dermal - Rabbit - 2,800 mg/kg

Skin corrosion/irritation

Skin - Rabbit Result: Corrosive Serious eye damage/eye irritation

Eyes - Rabbit Result: Corrosive to eyes

Respiratory or skin sensitisation - Guinea pig Result: May cause sensitisation by skin contact.

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.

### 11.2 Dimethyl sulfoxide

#### Acute toxicity

LD50 Dermal - Rat -40000mg/kg

LD50 Oral - 14500mg/kg

#### Skin corrosion/irritation

Skin - Mild irritant-Rabbit-Exposure 24 hours 500 mg

#### Serious eye damage/eye irritation

Eyes - Mild irritant-Rabbit-Exposure 24 hours 500 mg

#### Respiratory or skin sensitization

No data available

#### Germ cell mutagenicity

No known significant effects or critical hazards.

#### Carcinogenicity

No known significant effects or critical hazards.

#### Reproductive toxicity

No known significant effects or critical hazards.

#### Specific target organ toxicity - single exposure

No data available

#### Specific target organ toxicity - repeated exposure

No data available

#### Aspiration hazard

No data available

### 11.3 Paraformaldehyde

#### Acute toxicity

LD50 Oral - Rat - 800mg/kg

LC50 Inhalation - 170 mg/m<sup>3</sup>

#### Skin corrosion/irritation

Data are conclusive but insufficient for classification

#### Serious eye damage/eye irritation

Causes serious eye damage

#### Respiratory or skin sensitization

May cause sensitisation by skin contact

#### Germ cell mutagenicity

Suspected of causing genetic defects

#### Carcinogenicity

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Contains a known or suspected carcinogen

**Reproductive toxicity**

Data are conclusive but insufficient for classification

**Specific target organ toxicity - single exposure**

Causes damage to organs

**Specific target organ toxicity - repeated exposure**

Data are conclusive but insufficient for classification

**Aspiration hazard**

Data are conclusive but insufficient for classification

## SECTION 12 ECOLOGICAL INFORMATION

### 12.1 Proclin 300

**Ecotoxicity**

No data available

**Persistence and degradability**

No data available

**Bioaccumulative potential**

No data available

### 12.2 Dimethyl sulfoxide

**Toxicity**

No data available

Acute LC50 25000 ppm Fresh water Daphnia - Daphnia magna – Neonate 48 hours

Acute LC50 34000000 µg/l Fresh water Fish - Pimephales promelas 96 hours

Chronic NOEC 100 µl/L Marine water Algae - Ulva lactuca 72 hours

Chronic NOEC 6 ppb Fresh water Fish - Poecilia reticulata – Adult 16 weeks

**Persistence and degradability**

301C Ready Biodegradability - Modified MITI Test (I) 3.1 % - 14 days

**Bioaccumulative potential**

LogPow: -1.35

BCF: 3.6

Potential: low

**Mobility in soil**

No data available

**Results of PBT and vPvB assessment**

No data available

**Other adverse effects**

No known significant effects or critical hazards.

### 12.3 Paraformaldehyde

**Toxicity**

No data available

**Persistence and degradability**

No data available

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**Bioaccumulative potential**

No data available

**Mobility in soil**

No data available

**Results of PBT and vPvB assessment**

No data available

**Other adverse effects**

No data available

**SECTION 13 DISPOSAL CONSIDERATION****13.1 Disposal methods**

Dispose of waste in accordance to applicable national, regional, or local regulations. Burn in a chemical incinerator equipped with an afterburner and scrubber b 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.

**13.2 Contaminated packaging**

Dispose in the same manner as unused product.

**SECTION 14 TRANSPORT INFORMATION**

**RID/ADR:** Non-Hazardous for Transport: This substance is considered to be non-hazardous for transport.

**IATA:** Non-Hazardous for Air Transport.

**IMO:** Non-Hazardous for Sea Transport.

**SECTION 15 REGULATORY INFORMATION**

This material safety data sheet complies with the requirements of Regulation (EC) No. 1272/2008 and its amendments.

**SECTION 16 OTHER INFORMATION**

**IMPORTANT! Read the safety data sheets before the use and disposal of this product. Insure that this information is understood by the operators exposed to this product. Use this product for the intended purpose as indicated in the instruction manual.**

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as guide. We make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from this use. Users should make their own investigation to determine the suitability of the information for their particular purposes. In no way shall we be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising from using the above information.