

# Material Safety Data Sheet

## Creatinine Reagent (5X)

### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** Creatinine Reagent (5X).

**Catalog Numbers:** TO35802.

**Use:** This reagent comprises a two component system that is intended for in vitro quantitative determination of Creatinine in human serum, plasma or urine.

THERMO ELECTRON  
189 - 199 Browns Rd  
NOBLE PARK VIC 3174  
AUSTRALIA  
Tel: +61 3 9790 4100  
Fax: +61 3 9790 4155  
E-mail: [info.clinicalchemistry@thermo.com](mailto:info.clinicalchemistry@thermo.com)

THERMO ELECTRON  
331 South 104<sup>th</sup> Street  
LOUISVILLE, CO 80027  
U.S.A  
Tel: (303) 581 6428  
Fax: (303) 581 6429  
E-mail: [info.clinicalchemistry@thermo.com](mailto:info.clinicalchemistry@thermo.com)

#### Contact Point

Australia  
Quality Assurance Manager:  
Tel: +61 3 9790 4100  
Mon – Fri 9:00am to 5:00pm

U.S.A  
Chemtel  
24 Hour Emergency Assistance  
1-800-255-3924

### 2. HAZARD IDENTIFICATION

CLASSIFIED AS HAZARDOUS ACCORDING TO EU CRITERIA

**Hazard Classification:** HAZARDOUS SUBSTANCE, DANGEROUS GOODS.

#### Hazard Category

**Reagent A: Irritant**

**Reagent B: Very Corrosive**

#### RISK PHRASES

##### Reagent A

R38 Irritating to skin

R41 Risk of serious damage to eyes.

##### Reagent B

R35 Causes severe burns.

R41 Risk of serious damage to eyes.

#### SAFETY PHRASES

##### Reagent A

S24/25 Avoid contact with skin and eyes.

S26 In case of contact with eyes, rinse immediately with plenty of water and contact a doctor or Poisons Information Centre.

##### Reagent B

S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S28 After contact with skin, wash immediately with plenty of soap and water.

#### Poison Schedule

**Reagent A:** None Allocated

**Reagent B:** S5

This material is a Schedule (S5) Poison and must be stored, handled and used according to the appropriate regulations

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### 3. COMPOSITION / INFORMATION ON INGREDIENTS

SUBSTANCE NAME	Proportion	CAS Number
<b>Reagent A</b>		
PICRIC ACID	1 - 3 %	88-89-1
NON-IONIC SURFACTANT	1 - 5 %	Proprietary
WATER AND OTHER NON HAZARDOUS INGREDIENTS	Balance	Mixture
<b>Reagent B</b>		
SODIUM HYDROXIDE	1 - 10%	1310-73-2

All other ingredients determined not to be hazardous according to the EU criteria.

### 4. FIRST AID MEASURES

**Swallowed:** If swallowed, **DO NOT induce vomiting**. If victim is conscious give glass of water to drink. Immediately transport to hospital or doctor.

**Eye:** If liquid or vapour enters the eyes, flush with plenty of water for at least 15 minutes, ensuring eye lids are held open. Immediately transport to hospital or doctor.

**Skin:** If material is splashed onto the skin, remove any contaminated clothing and wash skin thoroughly with soap and water. If irritation persists transport to hospital or doctor.

**Inhaled:** Move victim to fresh air. Do not use mouth-to-mouth method. If victim inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult.

**First Aid Facilities:** Eye wash fountain, safety shower and normal wash room facilities.

**Advice to Doctor:** Treat symptomatically.

**In case of poisoning, contact Poisons Information Centre**

**In Australia call Tel: 131126**

**In New Zealand Tel: 034747000**

### 5. FIRE-FIGHTING MEASURES

**Suitable Extinguishing Media:** Use extinguishing media suitable for surrounding fire situation.

**Hazards from Combustion Products:** Decomposes on heating emitting oxides of carbon and oxides of nitrogen.

**Precautions for Fire Fighters and Special Protective Equipment:** If safe to do so, move undamaged containers from fire area. Fire fighters to wear Self-contained breathing apparatus (SCBA) in confined spaces, in oxygen deficient atmospheres or if exposed to products of decomposition. Full protective clothing is also recommended.

**Hazchem Code:** 2R.

**Flammability:** This material is not a flammable or combustible liquid. However, under very remote circumstances, such as distillation or deliberately reducing the water content of the product, the water may boil off, leaving a residue of picric acid, which may explode by heat, friction or by impact.

### 6. ACCIDENTAL RELEASE MEASURES

#### Emergency Procedures

Keep unnecessary people away. Isolate hazard area and deny entry. If product spills onto floors it will represent a slip hazard, walk cautiously. Wear protective equipment to prevent skin and eye contact, as outlined under personal protection in this MSDS.

#### Methods and Materials for Containment and Cleanup Procedures

Dike area using with an absorbent such as diatomaceous earth - to prevent run off into drains and waterways. Throw further absorbent (diatomaceous earth or other inert material) on top of spill, then shovel up and seal in properly labeled containers for disposal.

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### 7. HANDLING AND STORAGE

#### Precautions for Safe Handling

Keep out of reach of children. Avoid contact with skin and eyes. Provide adequate ventilation. Avoid generating vapours.

#### Conditions for Safe Storage

Store away from sources of heat or ignition, strong acids, aluminium, zinc and magnesium or their alloys. All equipment must be earthed. Store at 2-25°C and the reagent will be stable until the expiry date stated on the bottle and kit box labels. Store in original packaging as approved by manufacturer.

### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

#### Exposure Standards

No exposure standards have been assigned by [NOHSC] for this product however, the following exposure standards have been assigned to the following components of the product.

#### Reagent A

##### PICRIC ACID

(Worksafe Australia)

[TWA] 0.1 mg/m<sup>3</sup>

Notices: H

#### Reagent B

##### SODIUM HYDROXIDE

(Worksafe Australia)

[TWA] 2mg/m<sup>3</sup>

[STEL] Peak Limitations

Notices: H

(ACGIH)

[STEL] 2mg/m<sup>3</sup> (Ceiling)

#### Engineering Controls

Corrosive liquid. Single significant exposure may cause severe injury or even death. Maintain adequate ventilation at all times. Prevent accumulation of vapours in hollows or sumps. Eliminate any sources of ignition. Exposure to this material may be controlled in a number of ways. The measures appropriate for a particular worksite depend on how the material is used and on the potential for exposure. Engineering methods to prevent or control exposure are preferred. Methods include process or personnel enclosure, mechanical ventilation (dilution and local exhaust), and control of process conditions. If engineering controls and work practices are not effective in preventing or controlling exposure, then suitable personal protective equipment, which is known to perform satisfactorily, should be used.

#### Personal Protection Equipment

**Gloves:** Not normally required, however, if product has spilt, or package is broken, then the use of PVC or neoprene gloves is recommended.

**Eyes:** Chemical glasses or face shield for spills.

**Respiratory Protection:** Avoid breathing of vapours. The use of a respirator is not normally required, however, if entering spaces where the airborne concentration of a contaminant is unknown then the use of a Self-contained breathing apparatus (SCBA) with positive pressure air supply complying with AS/NZS 1715 / 1716, or any other acceptable International Standard is recommended. Select and use respirators in accordance with AS/NZS 1715/1716.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

	Reagent A	Reagent B
<b>Appearance:</b>	Clear bright yellow liquid with faint odour.	Clear colourless liquid
<b>Boiling Point:</b>	Not available	Not available
<b>Freezing Point:</b>	Not available	Not available
<b>Vapour Pressure:</b>	Not available	Not available
<b>Specific Gravity:</b>	Not available	Not available
<b>Flash Point:</b>	Not applicable	Not applicable

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### 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Flammability Limits:</b>	Not applicable	Not applicable
<b>Solubility in Water:</b>	Completely miscible	Completely miscible

#### Other Properties

<b>pH:</b>	1.2 ± 0.1 at 19 - 22°C	13.9 ± 0.2 at 19 - 22°C
<b>Vapor Density (Air = 1):</b>	Not available	Not available
<b>Evaporation Rate (BuAc = 1):</b>	Not available	Not available
<b>Volatile Organic Compounds:</b>	> 80 %	Not applicable

### 10. STABILITY AND REACTIVITY

**Chemical Stability:** Stable under normal conditions of use.

**Conditions to Avoid:** Reactions with mineral acids generate heat. Reaction with non-ferrous metals generates hydrogen gas which may cause explosion under appropriate conditions.

**Incompatible Materials:** Strong oxidizing agents, heavy metal contamination and ammonia.

**Hazardous Decomposition Products:** Decomposes on heating emitting oxides of carbon and oxides of nitrogen.

**Hazardous Reactions:** Will not occur.

### 11. TOXICOLOGICAL INFORMATION

There is no toxicological information available for this product, however, for the ingredients:

#### Reagent A

##### Picric Acid

Oral LD50(rat): 200 mg/kg

Picric acid dust will cause severe irritation and is a suspected skin allergen. Due to the low concentration of picric acid in this product, it is not anticipated to cause allergic skin reactions.

#### Reagent B

##### Sodium Hydroxide

According to OECD Guideline for the Testing of Chemicals (OECD 405) for eye corrosion and OECD Guideline for the Testing of Chemicals (OECD 404) for skin corrosion, both test procedures have been utilized to determine that sodium hydroxide is a confirmed corrosive substance.

This product contains significantly greater than 5 % of sodium hydroxide which is considered to be **VERY CORROSIVE** according to the criteria of the National Commission (Worksafe Australia).

#### Swallowed:

##### Reagent A

May cause irritation to mouth, throat and stomach with effects including mucous build up, irritation to the tongue and lips and pains in the stomach. Swallowing of large quantities may result in nausea, vomiting and diarrhoea.

##### Reagent B

Will cause severe burns to the mouth, mucous membranes, throat, oesophagus and stomach with effects including: Spontaneous vomiting with diarrhoea and possible bloody stools. Small quantities, approximately 20-50mL, ingested (swallowed) will cause death.

#### Eye:

##### Reagent A

Will cause severe irritation to the eyes, with effects including: tearing, pain, stinging and blurred vision. If the product is not removed promptly corneal injury may occur.

##### Reagent B

Will cause severe burns to the eyes, with effects including: tearing, pain, corneal opacity and blindness. If the product is not removed promptly corneal injury may occur.

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### 11. TOXICOLOGICAL INFORMATION

**Skin:****Reagent A**

Will cause irritation to the skin, with effects including; Redness and itchiness. The product is not anticipated to be absorbed through the skin.

**Reagent B**

Will cause severe burns to the skin, with effects including; Redness, blistering , localised pain, dermatitis and deep burns.

**Inhaled:** May cause irritation to the nose, throat and respiratory system. However, this is only anticipated to occur if the product is heated.

**Chronic:** Prolonged or repeated skin contact may lead to drying / defatting and possible dermatitis in some susceptible individuals. The systemic poisoning following absorption of picric acid causes headache and vertigo. There may also be a darkening or port wine-coloured urine and albuminuria. The higher the concentration the more likely these effects will be manifested and in particular if poor workplace hygiene practices are employed.

### 12. ECOLOGICAL INFORMATION

No ecological information is available for this product, however, for picric acid component:

**Effect on water treatment process:** 50 ppm causes upset in activated sludge which recovers after ten days of acclimation. 200 ppm has irreversible effects.

**Water uses threatened:** Recreation, potable supplies, fisheries.

Do not dispose of large quantities to waterways, drains or sewers.

### 13. DISPOSAL CONSIDERATIONS

Refer to appropriate authority in your State. Normally suitable for disposal by approved waste disposal agent.

### 14. TRANSPORT INFORMATION

**Reagent A**

**Road and Rail Transport:** Not classified as a Dangerous Good according to the United Nations Recommendations for the Transport of Dangerous Goods and Globally Harmonized System for the classification and labeling of Chemicals.

**UN Number:** None allocated

**Proper Shipping Name:** NONE ALLOCATED

**Dangerous Goods Class:** None allocated

**Subsidiary risk:** None allocated

**Packing Group:** None allocated

**Hazchem Code:** None allocated

**Air Transport:** This product is classified as a Dangerous Good according to the International Civil Aviation Organization (ICAO) and International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air.

**PROPER SHIPPING NAME:** CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (PICRIC ACID)

**UN No:** UN3265

**CLASS:** 8

**PACK GROUP:** III

**Reagent B**

**UN Number:** 1824

**Proper Shipping Name:** SODIUM HYDROXIDE SOLUTION

**Dangerous Goods Class:** 8

**Packing Group:** III

**Hazchem Code:** 2R

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### 14. TRANSPORT INFORMATION(Cont)

Classified as a CLASS 8 (CORROSIVE) Dangerous Good according to the Australian Code for the Transport of Dangerous Goods by Road and Rail, 6th Edition.

Dangerous goods of Class 8 (Corrosive) are incompatible in a placard load with any of the following:

- Class 1
- Class 4.3
- Class 5
- Class 6, if the Class 6 dangerous goods are cyanides and the Class 8 dangerous goods are acids
- Class 7

and are incompatible with food and food packaging in any quantity.

**Emergency information(Transport):**

Dangerous Goods - Initial Emergency Response Guide (IERG) (SAA/SNZ HB76:1997)

For TOXIC AND/OR CORROSIVE Guide No: 37

This product is classified as a Dangerous Good according to ICAO/IATA regulations:

**PROPER SHIPPING NAME:** SODIUM HYDROXIDE SOLUTION

**UN No:** UN1824

**CLASS:** 8

**PACK GROUP:** II

### 15. REGULATORY INFORMATION

**Poison Schedule**

**Reagent A:** None Allocated

**Reagent B:** S5

This material is a Schedule (S5) Poison and must be stored, handled and used according to the appropriate regulations

**Inventory Status:**

Australia (AICS)	Y
United States (TSCA)	Y
Canada (DSL)	Y
Europe (EINECS/ELINCS)	Y

Y = all ingredients are on the inventory.

### 16. OTHER INFORMATION

Issue date: June, 2005.

**Key Legend Information**

NOHSC - National Occupational Health & Safety Commission [Aust]

SUSDP - Standard for the Uniform Scheduling of Drugs and Poisons {Poison Schedule} [Aust]

TWA - Time Weighted Average [Int]

STEL - Short Term Exposure Limit [Int]

AICS - Australian Inventory of Chemical Substances [Aust]

EPA - Environmental Protection Agency [Int]

NIOSH - National Institute for Occupational Safety and Health [US]

AS/NZS 1715 - Selection, Use and Maintenance of Respiratory Protective Devices. [Aust]

AS/NZS 1716 - Respiratory Protective Devices. [Aust]

Hazchem Code - Fire Fighter Designation [Aust]

IATA - International Aviation Transport Authority [Int]

ICAO - International Civil Aviation Organization [Int]

IMO - International Maritime Organisation. [Int]

IMDG - International Maritime Dangerous Goods [Int]

United Nations Recommendations for the Transport of Dangerous Goods and Globally Harmonized System for the Classification and Labeling of Chemicals. [Int]

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### 16. OTHER INFORMATION

EU - European Union

TSCA - Toxic Substances Control Act [US]

DSL - Domestic Substance List [Can]

EINECS - European Inventory of Existing Commercial Chemical Substances [Int]

ELINCS - Existing List of Notified Chemical Substances. [Int]

[Aust] = Australia

[Int] = International

[US] = United States of America

[Can] = Canada

#### **Principal References**

Information supplied by manufacturer, reference sources including the public domain.

#### **Disclaimer**

This MSDS summarises our best knowledge of the health and safety hazard information of the product and how to safely handle and use the product in the workplace. Each user should read this MSDS and consider the information in the context of how the product will be handled and used in the workplace including in conjunction with other products. If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact this company.

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**END OF MSDS**