

DPD REAGENT #1

Product: CR-0001

Section 1: PRODUCT INFORMATION

Chemical family: Inorganic salt solution.

Product uses: Chemical.

Supplier: Lowry & Associates, div. of Chem-Aquascience, Inc
Canadian Master Distributors for Taylor Technologies, Inc.
4-1151 Gorham Street
Newmarket, ON.
L3Y 8Y1
Tel: 905-836-0505
Fax: 905-895-4539.

Emergency Phone Number: Canutec 613-996-6666.

Manufacturer: Taylor Technologies Inc.
31 Loveton Circle
Sparks, MD USA 21152
Tel: 410-472-4340.

TDG classification: Not regulated.

WHMIS classification:

D2B



DSL status: The substance(s) listed in section 2 appear on the Domestic Substances List.

Product name: DPD Reagent #1.

Section 2: HAZARDOUS INGREDIENTS

| C.A.S. | CONCENTRATION % | Ingredient Name | T.L.V. | LD/50 | LC/50 |
|-----------|-----------------|---------------------|---------------|------------------------------|---------------|
| 7558-79-4 | <10 | DISODIUM PHOSPHATE | NOT AVAILABLE | 17,000 MG/KG RAT ORAL | NOT AVAILABLE |
| 7778-77-0 | <10 | POTASSIUM PHOSPHATE | NOT AVAILABLE | >4640 MG/KG RABBIT DERMAL | NOT AVAILABLE |

Section 2A: ADDITIONAL INGREDIENT INFORMATION

Note: Balance: Water (CAS# 7732-18-5).
(supplier).

Section 3: PHYSICAL DATA

Physical state: Liquid.

Appearance & odor: Odourless.
Clear, colourless.

Odor threshold (ppm): Not available.

Vapour pressure (mmHg): 17

Vapour density (air=1): .64

Volatiles (%)

By volume: 68

**Evaporation rate
(butyl acetate = 1):** Not available.

Boiling point (°C): 100

Freezing point (°C): Not available.

pH: 10

Specific gravity @ 20 °C: 1.24

Solubility in water (%): Soluble.

Coefficient of water\oil dist.: Not available.

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| Section 4: FIRE & EXPLOSION DATA |
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Flammability: Not flammable.

Conditions of flammability: Surrounding fire.

Extinguishing media: Carbon dioxide, dry chemical, foam.
Water spray.

Special procedures: Wear a positive-pressure, self-contained breathing apparatus and full protective equipment.

Auto-ignition temperature (°C): Not applicable.

Flash point (°C), method: Not applicable.

**Lower flammability
limit (% vol):** Not applicable.

**Upper flammability
limit (% vol):** Not applicable.

Explosion Data

Sensitivity to static discharge: Not applicable.

Sensitivity to mechanical impact: Not applicable.

Hazardous combustion products: Oxides of phosphorus (PO_x).

Explosive power: Not applicable.

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| Section 5: REACTIVITY DATA |
|-----------------------------------|

Chemical stability: Stable under normal conditions.

Conditions of instability: Extreme temperatures.
Extreme heat.

Hazardous polymerization: Not available.

Incompatible substances: None known.

**Hazardous decomposition
products:** See hazardous combustion products.

Section 6: TOXICOLOGICAL PROPERTIES

Route of entry: Ingestion and skin contact.

Effects of acute exposure

Eye contact: Irritant.

Skin contact: May cause irritation.

Inhalation: May be harmful if inhaled.

Ingestion: Irritant.
May cause gastro-intestinal irritation.
May cause nausea and diarrhea.

Effects of chronic exposure: Pre-existing eye and skin disorders may be aggravated by exposure to this product.

LD50 of product, species & route: Not available for mixture, see the ingredients section.

LC50 of product, species & route: Not available.

Exposure limit of material: Not available.

Sensitization to product: Not available.

Carcinogenic effects: Not listed as a carcinogen.

Reproductive effects: Not available.

Teratogenicity: Not available.

Mutagenicity: Not available.

Synergistic materials: Not available.

Section 7: PREVENTATIVE MEASURES

Precautionary Measures

Gloves/Type:



General work gloves to minimize skin contact.

Respiratory/Type:



Wear a NIOSH approved respirator if TLV is exceeded.

Eye/Type:



Safety glasses.

Footwear/Type: Safety shoes per local regulations.

Clothing/Type:



Lab coat.

Other/Type: Eye wash facility should be in close proximity.
Emergency shower should be in close proximity.

Ventilation requirements: Provide sufficient mechanical ventilation to maintain exposure below TLV.

Leak/Spill: Absorb with inert material.
Wear appropriate protective equipment.
Place in a closed container for disposal.

Waste disposal: In accordance with municipal, provincial and federal regulations.

Handling procedures and equipment: Avoid breathing vapors/mists.
Use adequate ventilation.
Wear personal protective equipment appropriate to task.
Wash thoroughly after handling.
Avoid contact with skin, eyes and clothing.
Launder contaminated clothing prior to reuse.

Storage requirements: Keep out of direct sunlight.
Store in a cool and dry place.

Special shipping information: See transportation information.

Section 8: FIRST AID MEASURES

Skin contact: Remove contaminated clothing.
Wash thoroughly with soap and water.
Seek medical attention if irritation persists.

Eye contact: Immediately flush with cool water for at least 20 minutes.
Hold eyelids apart to ensure flushing of entire eye surface.
Get medical attention.

Inhalation: Remove victim to fresh air.
If irritation occurs, consult a physician.

Ingestion: Never give anything by mouth to an unconscious person.
Drink a large amount of water.
Do not induce vomiting, seek immediate medical attention.

Additional information: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. This company shall not be held liable for any inaccuracies.

Section 9: ADDITIONAL INFORMATION

General note: This material safety data sheet was prepared from information obtained from various sources, including product suppliers and the Canadian Center for Occupational Health and Safety.

Data prepared by: Lowry & Associates, div. of Chem–Aquascience, Inc
Canadian Master Distributors for Taylor Technologies, Inc.
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Newmarket, ON.
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Tel: 905–836–0505
Fax: 905–895–4539.

Supplier MSDS date: 2012/06/07.

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DPD REAGENT #2

Product: CR-0002

Section 1: PRODUCT INFORMATION

Chemical family: Acidic organic amine solution.

Product uses: Test chlorine levels in pools and spas.

Supplier: Lowry & Associates, div. of Chem-Aquascience, Inc
Canadian Master Distributors for Taylor Technologies, Inc.
4-1151 Gorham Street
Newmarket, ON.
L3Y 8Y1
Tel: 905-836-0505
Fax: 905-895-4539.

Emergency Phone Number: Canutec 613-996-6666.

Manufacturer: Taylor Technologies Inc.
31 Loveton Circle
Sparks, MD USA 21152
Tel: 410-472-4340.

TDG classification: Not regulated.

WHMIS classification:

D2B



DSL status: Cas# 6283-63-2 does not appear on the DSL or NDSL.

Product name: DPD Reagent #2

Controlled Product Identifier: DPD REAGENT #2
HMIRC Registration Number: 8162
Filing Date: April 7, 2011
Exemption granted on February 24, 2012.

Section 2: HAZARDOUS INGREDIENTS

| C.A.S. | CONCENTRATION % | Ingredient Name | T.L.V. | LD/50 | LC/50 |
|-----------|-----------------|--|---------------|---|---------------|
| | 5-10** | ORGANIC ACID | NOT AVAILABLE | 1400 MG/KG RAT ORAL <hr/> 7940 MG/KG RABBIT SKIN | NOT AVAILABLE |
| 6283-63-2 | 0.1-1** | N,N-DIETHYL-P-PHENYLENE-DIAMINE SULFATE | NOT AVAILABLE | NOT AVAILABLE | NOT AVAILABLE |

Section 2A: ADDITIONAL INGREDIENT INFORMATION

*: Organic Acid – HMIRC Registry No. 8162
Exemption was granted on February 24, 2012.

** : Units of concentration are % vol/vol.

Section 3: PHYSICAL DATA

Physical state: Liquid.

Appearance & odor: Odourless.
Clear, colourless.

Odor threshold (ppm): Not available.

Vapour pressure (mmHg): 17

Vapour density (air=1): .65

Volatiles (%)

By volume: 99

Evaporation rate (butyl acetate = 1): Not available.

Boiling point (°C): 100

Freezing point (°C): Not available.

pH: 1.3

Specific gravity @ 20 °C: 1.01

Solubility in water (%): Soluble.

Coefficient of water\oil dist.: Not available.

Section 4: FIRE & EXPLOSION DATA

Flammability: Not flammable.

Conditions of flammability: Surrounding fire.

Extinguishing media: As suitable for surrounding fire.

Special procedures: Wear a positive-pressure, self-contained breathing apparatus and full protective equipment.

Auto-ignition temperature (°C): Not applicable.

Flash point (°C), method: Not applicable.

Lower flammability limit (% vol): Not applicable.

Upper flammability limit (% vol): Not applicable.

Explosion Data

Sensitivity to static discharge: Not applicable.

Sensitivity to mechanical impact: Not applicable.

Hazardous combustion products: Oxides of carbon (CO, CO₂).
Oxides of nitrogen (NO_x).
Oxides of phosphorus (PO_x).
Hydrogen cyanide gas (HCN).
Oxides of sulfur (SO_x).
Contact with metals may produce flammable hydrogen gas.
Phosphine oxides.

Explosive power: Not applicable.

Section 5: REACTIVITY DATA

Chemical stability: Stable under normal conditions.

Conditions of instability: Extreme temperatures.
Extreme heat.

Hazardous polymerization: Not available.

Incompatible substances: Metals.
Strong caustics.
Oxidizers.

Hazardous decomposition products: See hazardous combustion products.

Section 6: TOXICOLOGICAL PROPERTIES

Route of entry: Ingestion and skin contact.

Effects of acute exposure

Eye contact: Irritant.
Organic acid has caused eye corrosion in animals.

Skin contact: May cause dermatitis.
Irritant.

Inhalation: May be harmful if inhaled.

Ingestion: Irritant.
May cause diarrhea.
May cause gastro-intestinal irritation.
May cause cramps.
Toxic

Effects of chronic exposure: Pre-existing eye and skin disorders may be aggravated by exposure to this product.

LD50 of product, species & route: Not available for mixture, see the ingredients section.

LC50 of product, species & route: Not available.

Exposure limit of material: Not available.

Sensitization to product: Not available.

Carcinogenic effects: Not listed as a carcinogen.

Reproductive effects: Not available.


Teratogenicity: Not available.

Mutagenicity: Not available.

Synergistic materials: Not available.

Section 7: PREVENTATIVE MEASURES

Precautionary Measures

Gloves/Type: 


General work gloves to minimize skin contact.

Respiratory/Type: If working area is not ventilated, wear an approved respirator.
Not necessary, if adequate ventilation provided.

Eye/Type: 

Splash proof chemical safety goggles or face shield.

Footwear/Type: Safety shoes per local regulations.

Clothing/Type: 

Lab coat.

Other/Type: Eye wash facility should be in close proximity.
Emergency shower should be in close proximity.

Ventilation requirements: Adequate general ventilation.

Leak/Spill: Absorb with inert material.
Wear appropriate protective equipment.
Neutralize with soda ash.
Place in a closed container for disposal.

Waste disposal: In accordance with municipal, provincial and federal regulations.

Handling procedures and equipment: Avoid breathing vapors/mists.
Use adequate ventilation.
Wear personal protective equipment appropriate to task.
Wash thoroughly after handling.
Avoid contact with skin, eyes and clothing.
Launder contaminated clothing prior to reuse.

Storage requirements: Keep out of direct sunlight.
Store in a cool and dry place.

Special shipping information: See transportation information.

Section 8: FIRST AID MEASURES

Skin contact: Remove contaminated clothing. Wash affected area with soap and water. Get medical attention.

Eye contact: Immediately flush the eyes with lukewarm, gently flowing water for at least 30 minutes holding eyelids open. Seek medical attention immediately.

Inhalation: Remove victim to fresh air.
If irritation occurs, consult a physician.

Ingestion: Never give anything by mouth to an unconscious person.
Do not induce vomiting, seek immediate medical attention.

Additional information: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. This company shall not be held liable for any inaccuracies.

Section 9: ADDITIONAL INFORMATION

General note: This material safety data sheet was prepared from information obtained from various sources, including product suppliers and the Canadian Center for Occupational Health and Safety.

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Canadian Master Distributors for Taylor Technologies, Inc.
4–1151 Gorham Street
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Tel: 905–836–0505
Fax: 905–895–4539.

Supplier MSDS date: 2012/06/08.

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DPD REAGENT #3

Product: CR-0003

Section 1: PRODUCT INFORMATION

Chemical family: Inorganic salt solution.

Product uses: Chemical.

Supplier: Lowry & Associates, div. of Chem-Aquascience, Inc
Canadian Master Distributors for Taylor Technologies, Inc.
4-1151 Gorham Street
Newmarket, ON.
L3Y 8Y1
Tel: 905-836-0505
Fax: 905-895-4539.

Emergency Phone Number: Canutec 613-996-6666.

Manufacturer: Taylor Technologies Inc.
31 Loveton Circle
Sparks, MD USA 21152
Tel: 410-472-4340.

TDG classification: Not regulated.

WHMIS classification:

D2A



DSL status: The substance(s) listed in section 2 appear on the Domestic Substances List.

Product name: DPD Reagent #3.

Section 2: HAZARDOUS INGREDIENTS

| C.A.S. | CONCENTRATION % | Ingredient Name | T.L.V. | LD/50 | LC/50 |
|-----------|-----------------|------------------|----------|---------------|---------------|
| 7681-11-0 | <20 | POTASSIUM IODIDE | 0.01 PPM | NOT AVAILABLE | NOT AVAILABLE |

Section 2A: ADDITIONAL INGREDIENT INFORMATION

Note: Balance: Water (CAS# 7732-18-5).
(supplier).
CAS# 7681-11-0 LD50 1862 mg/kg mouse oral.

Section 3: PHYSICAL DATA

Physical state: Liquid.

Appearance & odor: Odourless.
Clear, colourless.

Odor threshold (ppm): Not available.

Vapour pressure (mmHg): 17

Vapour density (air=1): .6

Volatiles (%)

By volume: 80

**Evaporation rate
(butyl acetate = 1):** Not available.

Boiling point (°C): 100

Freezing point (°C): Not available.

pH: 7.6

Specific gravity @ 20 °C: 1.07

Solubility in water (%): Soluble.

Coefficient of water\oil dist.: Not available.

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| Section 4: FIRE & EXPLOSION DATA |
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Flammability: Not flammable.

Conditions of flammability: Surrounding fire.

Extinguishing media: As suitable for surrounding fire.

Special procedures: Wear a positive-pressure, self-contained breathing apparatus and full protective equipment.

Auto-ignition temperature (°C): Not applicable.

Flash point (°C), method: Not applicable.

**Lower flammability
limit (% vol):** Not applicable.

**Upper flammability
limit (% vol):** Not applicable.

Explosion Data

Sensitivity to static discharge: Not applicable.

Sensitivity to mechanical impact: Not applicable.

Hazardous combustion products: Iodine oxides.

Explosive power: Not applicable.

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| Section 5: REACTIVITY DATA |
|-----------------------------------|

Chemical stability: Stable under normal conditions.

Conditions of instability: Extreme temperatures.
Extreme heat.

Hazardous polymerization: Not available.

Incompatible substances: Acids
Oxidizers.

**Hazardous decomposition
products:** See hazardous combustion products.

Section 6: TOXICOLOGICAL PROPERTIES

Route of entry: Ingestion and skin contact.

Effects of acute exposure

Eye contact: May cause irritation.

Skin contact: May cause irritation.

Inhalation: May be harmful if inhaled.

Ingestion: Irritant.
May cause gastro-intestinal irritation.

Effects of chronic exposure: Pre-existing eye and skin disorders may be aggravated by exposure to this product.

LD50 of product, species & route: Not available.

LC50 of product, species & route: Not available.

Exposure limit of material: Not available.

Sensitization to product: Not available.

Carcinogenic effects: Not listed as a carcinogen.

Reproductive effects: Not available.

Teratogenicity: May affect the developing fetus.

Mutagenicity: Not available.

Synergistic materials: Not available.

Section 7: PREVENTATIVE MEASURES

Precautionary Measures

Gloves/Type:



General work gloves to minimize skin contact.

Respiratory/Type:



Wear a NIOSH approved respirator if TLV is exceeded.

Eye/Type:



Safety glasses.

Footwear/Type: Safety shoes per local regulations.

Clothing/Type:



Lab coat.

Other/Type: Eye wash facility should be in close proximity.
Emergency shower should be in close proximity.

Ventilation requirements: Provide sufficient mechanical ventilation to maintain exposure below TLV.

Leak/Spill: Absorb with inert material.
Wear appropriate protective equipment.
Place in a closed container for disposal.

Waste disposal: In accordance with municipal, provincial and federal regulations.

Handling procedures and equipment: Avoid breathing vapors/mists.
Use adequate ventilation.
Wear personal protective equipment appropriate to task.
Wash thoroughly after handling.
Avoid contact with skin, eyes and clothing.
Launder contaminated clothing prior to reuse.

Storage requirements: Keep out of direct sunlight.
Store in a cool and dry place.

Special shipping information: See transportation information.

Section 8: FIRST AID MEASURES

Skin contact: Remove contaminated clothing. Wash affected area with soap and water. Get medical attention.

Eye contact: Immediately flush with cool water for at least 20 minutes.
Hold eyelids apart to ensure flushing of entire eye surface.
Get medical attention.

Inhalation: Remove victim to fresh air.
If irritation occurs, consult a physician.

Ingestion: Never give anything by mouth to an unconscious person.
Drink a large amount of water.
Do not induce vomiting, seek immediate medical attention.

Additional information: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. This company shall not be held liable for any inaccuracies.

Section 9: ADDITIONAL INFORMATION

General note: This material safety data sheet was prepared from information obtained from various sources, including product suppliers and the Canadian Center for Occupational Health and Safety.

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Supplier MSDS date: 2012/06/07.

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PH INDICATOR SOLUTION (PHENOL RED)

Product: CR-0004

Section 1: PRODUCT INFORMATION

Chemical family: Sulfonphthalein dye solution.

Product uses: Chemical.

Supplier: Lowry & Associates, div. of Chem-Aquascience, Inc
Canadian Master Distributors for Taylor Technologies, Inc.
4-1151 Gorham Street
Newmarket, ON.
L3Y 8Y1
Tel: 905-836-0505
Fax: 905-895-4539.

Emergency Phone Number: Canutec 613-996-6666.

Manufacturer: Taylor Technologies Inc.
31 Loveton Circle
Sparks, MD USA 21152
Tel: 410-472-4340.

TDG classification: Not regulated.

WHMIS classification: Not controlled.

DSL status: Not available.

Product name: Ph Indicator Solution (Phenol Red).

Section 2: HAZARDOUS INGREDIENTS

| C.A.S. | CONCENTRATION % | Ingredient Name | T.L.V. | LD/50 | LC/50 |
|--------|-----------------|--------------------------|---------------|---------------|---------------|
| | <1 | NO HAZARDOUS INGREDIENTS | NOT AVAILABLE | NOT AVAILABLE | NOT AVAILABLE |

Section 2A: ADDITIONAL INGREDIENT INFORMATION

Note: Balance: Water (CAS# 7732-18-5).
(supplier).

Section 3: PHYSICAL DATA

Physical state: Liquid.

Appearance & odor: Phenolic odour.
Clear red.

Odor threshold (ppm): Not available.

Vapour pressure (mmHg): 17

Vapour density (air=1): .6

Volatiles (%)

By volume: 98

**Evaporation rate
(butyl acetate = 1):** Not available.

Boiling point (°C): 100

Freezing point (°C): Not available.

pH: 7.7

Specific gravity @ 20 °C: 1

Solubility in water (%): Soluble.

Coefficient of water\oil dist.: Not available.

Section 4: FIRE & EXPLOSION DATA

Flammability: Not flammable.

Conditions of flammability: Surrounding fire.

Extinguishing media: As suitable for surrounding fire.

Special procedures: Wear a positive–pressure, self–contained breathing apparatus and full protective equipment.

Auto–ignition temperature (°C): Not applicable.

Flash point (°C), method: Not applicable.

Lower flammability limit (% vol): Not applicable.

Upper flammability limit (% vol): Not applicable.

Explosion Data

Sensitivity to static discharge: Not applicable.

Sensitivity to mechanical impact: Not applicable.

Hazardous combustion products: Oxides of carbon (CO, CO₂).
Oxides of nitrogen (NO_x).
Ammonia (NH₃).

Explosive power: Not applicable.

Section 5: REACTIVITY DATA

Chemical stability: Stable under normal conditions.

Conditions of instability: Extreme temperatures.
Extreme heat.

Hazardous polymerization: Not available.

Incompatible substances: None known.

Hazardous decomposition products: See hazardous combustion products.

Section 6: TOXICOLOGICAL PROPERTIES

Route of entry: Ingestion and skin contact.

Effects of acute exposure

Eye contact: May cause irritation.

Skin contact: May stain skin.

Inhalation: May be harmful if inhaled.

Ingestion: May cause gastro–intestinal irritation.

Effects of chronic exposure: Pre–existing eye and skin disorders may be aggravated by exposure to this product.

LD50 of product, species & route: Not available.

LC50 of product, species & route: Not available.

Exposure limit of material: Not available.

Sensitization to product: Not available.

Carcinogenic effects: Not listed as a carcinogen.

Reproductive effects: Not available.

Teratogenicity: Not available.

Mutagenicity: Not available.

Synergistic materials: Not available.

Section 7: PREVENTATIVE MEASURES

Precautionary Measures

Gloves/Type:



General work gloves to minimize skin contact.

Respiratory/Type:



Wear a NIOSH approved respirator if TLV is exceeded.

Eye/Type:



Safety glasses.

Footwear/Type: Safety shoes per local regulations.

Clothing/Type:



Lab coat.

Other/Type: Eye wash facility should be in close proximity.
Emergency shower should be in close proximity.

Ventilation requirements: Provide sufficient mechanical ventilation to maintain exposure below TLV.

Leak/Spill: Absorb with inert material.
Wear appropriate protective equipment.
Place in a closed container for disposal.

Waste disposal: In accordance with municipal, provincial and federal regulations.

Handling procedures and equipment: Avoid breathing vapors/mists.
Use adequate ventilation.
Wear personal protective equipment appropriate to task.
Wash thoroughly after handling.
Avoid contact with skin, eyes and clothing.

Launder contaminated clothing prior to reuse.

Storage requirements: Keep out of direct sunlight.
Store in a cool and dry place.

Special shipping information: See transportation information.

Section 8: FIRST AID MEASURES

Skin contact: Remove contaminated clothing.
Wash thoroughly with soap and water.
Seek medical attention if irritation persists.

Eye contact: Immediately flush with cool water for at least 20 minutes.
Hold eyelids apart to ensure flushing of entire eye surface.
Get medical attention.

Inhalation: Remove victim to fresh air.
If irritation occurs, consult a physician.

Ingestion: Never give anything by mouth to an unconscious person.
Drink a large amount of water.
Do not induce vomiting, seek immediate medical attention.

Additional information: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. This company shall not be held liable for any inaccuracies.

Section 9: ADDITIONAL INFORMATION

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Supplier MSDS date: 2012/06/07.

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ACID DEMAND REAGENT (ADR)

Product: CR-0005

Section 1: PRODUCT INFORMATION

Chemical family: Inorganic acid solution.

Product uses: Chemical.

Supplier: Lowry & Associates, div. of Chem-Aquascience, Inc
Canadian Master Distributors for Taylor Technologies, Inc.
4-1151 Gorham Street
Newmarket, ON.
L3Y 8Y1
Tel: 905-836-0505
Fax: 905-895-4539.

Emergency Phone Number: Canutec 613-996-6666.

Manufacturer: Taylor Technologies Inc.
31 Loveton Circle
Sparks, MD USA 21152
Tel: 410-472-4340.

TDG classification: Not regulated.

WHMIS classification:

D2B



DSL status: The substance(s) listed in section 2 appear on the Domestic Substances List.

Product name: Acid Demand Reagent (ADR).

Section 2: HAZARDOUS INGREDIENTS

| C.A.S. | CONCENTRATION % | Ingredient Name | T.L.V. | LD/50 | LC/50 |
|-----------|-----------------|-----------------|-----------|------------------------|--|
| 7664-93-9 | <1 | SULFURIC ACID | 0.2 MG/M3 | 2140 MG/KG RAT ORAL | 510 MG/M3/2H RAT INHALATION 320 MG/M3/2H MOUSE INHALATION |

Section 2A: ADDITIONAL INGREDIENT INFORMATION

Note: Balance: Water (CAS# 7732-18-5).
(supplier).

Section 3: PHYSICAL DATA

Physical state: Liquid.

Appearance & odor: Odourless.
Clear, colourless.

Odor threshold (ppm): Not available.

Vapour pressure (mmHg): 17

Vapour density (air=1): .6

Volatiles (%)

By volume: 100

**Evaporation rate
(butyl acetate = 1):** Not available.

Boiling point (°C): 100

Freezing point (°C): Not available.

pH: 1.3

Specific gravity @ 20 °C: 1

Solubility in water (%): Soluble.

Coefficient of water\oil dist.: Not available.

| |
|---|
| Section 4: FIRE & EXPLOSION DATA |
|---|

Flammability: Not flammable.

Conditions of flammability: Surrounding fire.

Extinguishing media: Dry chemical.
Carbon dioxide.

Special procedures: Wear a positive–pressure, self–contained breathing apparatus and full protective equipment.

Auto–ignition temperature (°C): Not applicable.

Flash point (°C), method: Not applicable.

**Lower flammability
limit (% vol):** Not applicable.

**Upper flammability
limit (% vol):** Not applicable.

Explosion Data

Sensitivity to static discharge: Not applicable.

Sensitivity to mechanical impact: Not applicable.

Hazardous combustion products: Oxides of sulfur (SO_x).
Hydrogen gas when in contact with metals.

Explosive power: Not applicable.

| |
|-----------------------------------|
| Section 5: REACTIVITY DATA |
|-----------------------------------|

Chemical stability: Stable under normal conditions.

Conditions of instability: Contact with water.
Extreme temperatures.
Extreme heat.

Hazardous polymerization: Not available.

Incompatible substances: Strong alkalis.
Metals.

Hazardous decomposition products: See hazardous combustion products.

Section 6: TOXICOLOGICAL PROPERTIES

Route of entry: Ingestion and skin contact.

Effects of acute exposure

Eye contact: Irritant.
May cause burns.

Skin contact: Irritant.
May cause burns.

Inhalation: May be harmful if inhaled.

Ingestion: May cause gastro-intestinal irritation.

Effects of chronic exposure: Pre-existing eye and skin disorders may be aggravated by exposure to this product.

LD50 of product, species & route: Not available for mixture, see the ingredients section.

LC50 of product, species & route: Not available for mixture, see the ingredients section.

Exposure limit of material: Not available for mixture, see the ingredients section.

Sensitization to product: Not available.

Carcinogenic effects: Not listed as a carcinogen.

Reproductive effects: Not available.

Teratogenicity: Not available.

Mutagenicity: Not available.

Synergistic materials: Not available.

Section 7: PREVENTATIVE MEASURES

Precautionary Measures

Gloves/Type:



General work gloves to minimize skin contact.

Respiratory/Type:



Wear a NIOSH approved respirator if TLV is exceeded.

Eye/Type:



Safety glasses.

Footwear/Type: Safety shoes per local regulations.

Clothing/Type:



Lab coat.

Other/Type: Eye wash facility should be in close proximity.
Emergency shower should be in close proximity.

Ventilation requirements: Provide sufficient mechanical ventilation to maintain exposure below TLV.

Leak/Spill: Absorb with inert material.
Wear appropriate protective equipment.
Neutralize with soda ash.
Place in a closed container for disposal.

Waste disposal: In accordance with municipal, provincial and federal regulations.

Handling procedures and equipment: Avoid breathing vapors/mists.
Use adequate ventilation.
Wear personal protective equipment appropriate to task.
Wash thoroughly after handling.
Avoid contact with skin, eyes and clothing.
Launder contaminated clothing prior to reuse.

Storage requirements: Keep out of direct sunlight.
Store in a cool and dry place.

Special shipping information: See transportation information.

Section 8: FIRST AID MEASURES

Skin contact: Remove contaminated clothing. Wash affected area with soap and water. Get medical attention.

Eye contact: Immediately flush with cool water for at least 20 minutes.
Hold eyelids apart to ensure flushing of entire eye surface.
Get medical attention.

Inhalation: Remove victim to fresh air.
If irritation occurs, consult a physician.

Ingestion: Never give anything by mouth to an unconscious person.
Drink a large amount of water.
Do not induce vomiting, seek immediate medical attention.

Additional information: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. This company shall not be held liable for any inaccuracies.

Section 9: ADDITIONAL INFORMATION

General note: This material safety data sheet was prepared from information obtained from various sources, including product suppliers and the Canadian Center for Occupational Health and Safety.

Data prepared by: Lowry & Associates, div. of Chem–Aquascience, Inc
Canadian Master Distributors for Taylor Technologies, Inc.
4–1151 Gorham Street
Newmarket, ON.
L3Y 8Y1
Tel: 905–836–0505
Fax: 905–895–4539.

Supplier MSDS date: 2012/06/07.

This MSDS was generated by *Conform–Plus* Application Service. Visit us at www.netmsds.com.

BASE DEMAND REAGENT (BDR)

Product: CR-0006

Section 1: PRODUCT INFORMATION

Chemical family: Inorganic alkali solution.

Product uses: Chemical.

Supplier: Lowry & Associates, div. of Chem-Aquascience, Inc
Canadian Master Distributors for Taylor Technologies, Inc.
4-1151 Gorham Street
Newmarket, ON.
L3Y 8Y1
Tel: 905-836-0505
Fax: 905-895-4539.

Emergency Phone Number: Canutec 613-996-6666.

Manufacturer: Taylor Technologies Inc.
31 Loveton Circle
Sparks, MD USA 21152
Tel: 410-472-4340.

TDG classification: Not regulated.

WHMIS classification:

D2B



DSL status: The substance(s) listed in section 2 appear on the Domestic Substances List.

Product name: Base Demand Reagent (BDR).

Section 2: HAZARDOUS INGREDIENTS

| C.A.S. | CONCENTRATION % | Ingredient Name | T.L.V. | LD/50 | LC/50 |
|----------|-----------------|------------------|---------------|--------------------------|-----------------------------------|
| 497-19-8 | <1 | SODIUM CARBONATE | NOT AVAILABLE | 4090 MG/KG RAT ORAL | 2300 MG/M3/2H RAT INHALATION |
| | | | | 6600 MG/KG MOUSE ORAL | 1200 MG/M3/2H MOUSE INHALATION |

Section 2A: ADDITIONAL INGREDIENT INFORMATION

Note: Balance: Water (CAS# 7732-18-5).
(supplier).

Section 3: PHYSICAL DATA

Physical state: Liquid.

Appearance & odor: Odourless.
Clear, colourless.

Odor threshold (ppm): Not available.

Vapour pressure (mmHg): 17

Vapour density (air=1): .6

Volatiles (%)

By volume: 99

**Evaporation rate
(butyl acetate = 1):** Not available.

Boiling point (°C): 100

Freezing point (°C): Not available.

pH: 11.2

Specific gravity @ 20 °C: 1

Solubility in water (%): Soluble.

Coefficient of water\oil dist.: Not available.

| |
|---|
| Section 4: FIRE & EXPLOSION DATA |
|---|

Flammability: Not flammable.

Conditions of flammability: Surrounding fire.

Extinguishing media: As suitable for surrounding fire.

Special procedures: Wear a positive–pressure, self–contained breathing apparatus and full protective equipment.

Auto–ignition temperature (°C): Not applicable.

Flash point (°C), method: Not applicable.

**Lower flammability
limit (% vol):** Not applicable.

**Upper flammability
limit (% vol):** Not applicable.

Explosion Data

Sensitivity to static discharge: Not applicable.

Sensitivity to mechanical impact: Not applicable.

Hazardous combustion products: Oxides of carbon (CO, CO₂).
Oxides of sodium (NaOx).

Explosive power: Not applicable.

| |
|-----------------------------------|
| Section 5: REACTIVITY DATA |
|-----------------------------------|

Chemical stability: Stable under normal conditions.

Conditions of instability: Extreme temperatures.
Extreme heat.

Hazardous polymerization: Not available.

Incompatible substances: Strong acids.
Aluminum (Al).
Lithium (Li).
Metals.
Fluorine.
Phosphorous pentoxide.

Hazardous decomposition products: See hazardous combustion products.

Section 6: TOXICOLOGICAL PROPERTIES

Route of entry: Ingestion and skin contact.

Effects of acute exposure

Eye contact: Irritant.

Skin contact: Irritant.

Inhalation: May be harmful if inhaled.

Ingestion: May cause gastro-intestinal irritation.

Effects of chronic exposure: Pre-existing eye and skin disorders may be aggravated by exposure to this product.

LD50 of product, species & route: Not available for mixture, see the ingredients section.

LC50 of product, species & route: Not available for mixture, see the ingredients section.

Exposure limit of material: Not available.

Sensitization to product: Not available.

Carcinogenic effects: Not listed as a carcinogen.

Reproductive effects: Not available.

Teratogenicity: Not available.

Mutagenicity: Not available.

Synergistic materials: Not available.

Section 7: PREVENTATIVE MEASURES

Precautionary Measures

Gloves/Type:



General work gloves to minimize skin contact.

Respiratory/Type:



Wear a NIOSH approved respirator if TLV is exceeded.

Eye/Type:



Safety glasses.

Footwear/Type: Safety shoes per local regulations.

Clothing/Type:



Lab coat.

Other/Type: Eye wash facility should be in close proximity.
Emergency shower should be in close proximity.

Ventilation requirements: Provide sufficient mechanical ventilation to maintain exposure below TLV.

Leak/Spill: Absorb with inert material.
Wear appropriate protective equipment.
Place in a closed container for disposal.
Neutralize with dilute acid.

Waste disposal: In accordance with municipal, provincial and federal regulations.

Handling procedures and equipment: Avoid breathing vapors/mists.
Use adequate ventilation.
Wear personal protective equipment appropriate to task.
Wash thoroughly after handling.
Avoid contact with skin, eyes and clothing.
Launder contaminated clothing prior to reuse.

Storage requirements: Keep out of direct sunlight.
Store in a cool and dry place.

Special shipping information: See transportation information.

Section 8: FIRST AID MEASURES

Skin contact: Remove contaminated clothing. Wash affected area with soap and water. Get medical attention.

Eye contact: Immediately flush with cool water for at least 20 minutes.
Hold eyelids apart to ensure flushing of entire eye surface.
Get medical attention.

Inhalation: Remove victim to fresh air.
If irritation occurs, consult a physician.

Ingestion: Never give anything by mouth to an unconscious person.
Drink a large amount of water.
Do not induce vomiting, seek immediate medical attention.

Additional information: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. This company shall not be held liable for any inaccuracies.

Section 9: ADDITIONAL INFORMATION

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Supplier MSDS date: 2012/06/07.

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THIOSULFATE N/10

Product: CR-0007

Section 1: PRODUCT INFORMATION

Chemical family: Inorganic salt solution.

Product uses: Chemical.

Supplier: Lowry & Associates, div. of Chem-Aquascience, Inc
Canadian Master Distributors for Taylor Technologies, Inc.
4-1151 Gorham Street
Newmarket, ON.
L3Y 8Y1
Tel: 905-836-0505
Fax: 905-895-4539.

Emergency Phone Number: Canutec 613-996-6666.

Manufacturer: Taylor Technologies Inc.
31 Loveton Circle
Sparks, MD USA 21152
Tel: 410-472-4340.

TDG classification: Not regulated.

WHMIS classification:

D2B



DSL status: The substance(s) listed in section 2 appear on the Domestic Substances List.

Product name: Thiosulfate N/10

Section 2: HAZARDOUS INGREDIENTS

| C.A.S. | CONCENTRATION % | Ingredient Name | T.L.V. | LD/50 | LC/50 |
|-----------|-----------------|--------------------|---------------|-------------------------|---------------|
| 7772-98-7 | <5 | SODIUM THIOSULFATE | NOT AVAILABLE | >5000 MG/KG RAT ORAL | NOT AVAILABLE |

Section 2A: ADDITIONAL INGREDIENT INFORMATION

Note: Balance: Water (CAS# 7732-18-5).
(supplier).

Section 3: PHYSICAL DATA

Physical state: Liquid.

Appearance & odor: Odourless.
Clear, colourless.

Odor threshold (ppm): Not available.

Vapour pressure (mmHg): 17

Vapour density (air=1): .6

Volatiles (%)

By volume: 97

**Evaporation rate
(butyl acetate = 1):** Not available.

Boiling point (°C): 100

Freezing point (°C): Not available.

pH: 9.6

Specific gravity @ 20 °C: 1

Solubility in water (%): Soluble.

Coefficient of water\oil dist.: Not available.

| |
|---|
| Section 4: FIRE & EXPLOSION DATA |
|---|

Flammability: Not flammable.

Conditions of flammability: Surrounding fire.

Extinguishing media: As suitable for surrounding fire.

Special procedures: Wear a positive-pressure, self-contained breathing apparatus and full protective equipment.

Auto-ignition temperature (°C): Not applicable.

Flash point (°C), method: Not applicable.

**Lower flammability
limit (% vol):** Not applicable.

**Upper flammability
limit (% vol):** Not applicable.

Explosion Data

Sensitivity to static discharge: Not applicable.

Sensitivity to mechanical impact: Not applicable.

Hazardous combustion products: Hydrogen sulfide (H₂S).
Oxides of sulfur (SO_x).

Explosive power: Not applicable.

| |
|-----------------------------------|
| Section 5: REACTIVITY DATA |
|-----------------------------------|

Chemical stability: Stable under normal conditions.

Conditions of instability: Extreme temperatures.
Extreme heat.

Hazardous polymerization: Not available.

Incompatible substances: Acids
Strong oxidizers.

**Hazardous decomposition
products:** See hazardous combustion products.

Section 6: TOXICOLOGICAL PROPERTIES

Route of entry: Ingestion and skin contact.

Effects of acute exposure

Eye contact: May cause irritation.

Skin contact: May cause irritation.

Inhalation: May be harmful if inhaled.

Ingestion: May cause gastro-intestinal irritation.

Effects of chronic exposure: Pre-existing eye and skin disorders may be aggravated by exposure to this product.

LD50 of product, species & route: Not available for mixture, see the ingredients section.

LC50 of product, species & route: Not available.

Exposure limit of material: Not available.

Sensitization to product: Not available.

Carcinogenic effects: Not listed as a carcinogen.

Reproductive effects: Not available.

Teratogenicity: Not available.

Mutagenicity: Not available.

Synergistic materials: Not available.

Section 7: PREVENTATIVE MEASURES

Precautionary Measures

Gloves/Type:



General work gloves to minimize skin contact.

Respiratory/Type:



Wear a NIOSH approved respirator if TLV is exceeded.

Eye/Type:



Safety glasses.

Footwear/Type: Safety shoes per local regulations.

Clothing/Type:



Lab coat.

Other/Type: Eye wash facility should be in close proximity.
Emergency shower should be in close proximity.

Ventilation requirements: Provide sufficient mechanical ventilation to maintain exposure below TLV.

Leak/Spill: Absorb with inert material.
Wear appropriate protective equipment.
Place in a closed container for disposal.

Waste disposal: In accordance with municipal, provincial and federal regulations.

Handling procedures and equipment: Avoid breathing vapors/mists.
Use adequate ventilation.
Wear personal protective equipment appropriate to task.
Wash thoroughly after handling.
Avoid contact with skin, eyes and clothing.
Launder contaminated clothing prior to reuse.

Storage requirements: Keep out of direct sunlight.
Store in a cool and dry place.

Special shipping information: See transportation information.

Section 8: FIRST AID MEASURES

Skin contact: Remove contaminated clothing.
Wash thoroughly with soap and water.
Seek medical attention if irritation persists.

Eye contact: Immediately flush with cool water for at least 20 minutes.
Hold eyelids apart to ensure flushing of entire eye surface.
Get medical attention.

Inhalation: Remove victim to fresh air.
If irritation occurs, consult a physician.

Ingestion: Never give anything by mouth to an unconscious person.
Drink a large amount of water.
Do not induce vomiting, seek immediate medical attention.

Additional information: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. This company shall not be held liable for any inaccuracies.

Section 9: ADDITIONAL INFORMATION

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Canadian Master Distributors for Taylor Technologies, Inc.
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Tel: 905–836–0505
Fax: 905–895–4539.

Supplier MSDS date: 2012/06/07.

This MSDS was generated by *Conform–Plus* Application Service. Visit us at www.netmsds.com.

TOTAL ALKALINITY INDICATOR

Product: CR-0008

Section 1: PRODUCT INFORMATION

Chemical family: Organic dye solution.

Product uses: Chemical.

Supplier: Lowry & Associates, div. of Chem-Aquascience, Inc
Canadian Master Distributors for Taylor Technologies, Inc.
4-1151 Gorham Street
Newmarket, ON.
L3Y 8Y1
Tel: 905-836-0505
Fax: 905-895-4539.

Emergency Phone Number: Canutec 613-996-6666.

Manufacturer: Taylor Technologies Inc.
31 Loveton Circle
Sparks, MD USA 21152
Tel: 410-472-4340.

TDG classification: Not regulated.

WHMIS classification: Not controlled.

DSL status: Not available.

Product name: Total Alkalinity Indicator.

Section 2: HAZARDOUS INGREDIENTS

| C.A.S. | CONCENTRATION % | Ingredient Name | T.L.V. | LD/50 | LC/50 |
|--------|-----------------|--------------------------|---------------|---------------|---------------|
| | <1 | NO HAZARDOUS INGREDIENTS | NOT AVAILABLE | NOT AVAILABLE | NOT AVAILABLE |

Section 2A: ADDITIONAL INGREDIENT INFORMATION

Note: Balance: Water (CAS# 7732-18-5).
(supplier).

Section 3: PHYSICAL DATA

Physical state: Liquid.

Appearance & odor: Odourless.
Dark green.

Odor threshold (ppm): Not available.

Vapour pressure (mmHg): 17

Vapour density (air=1): .6

Volatiles (%)

By volume: 99

**Evaporation rate
(butyl acetate = 1):** Not available.

Boiling point (°C): 100

Freezing point (°C): Not available.

pH: 8.5

Specific gravity @ 20 °C: 1

Solubility in water (%): Soluble.

Coefficient of water\oil dist.: Not available.

Section 4: FIRE & EXPLOSION DATA

Flammability: Not flammable.

Conditions of flammability: Surrounding fire.

Extinguishing media: Carbon dioxide, dry chemical, foam.
Water spray.

Special procedures: Wear a positive-pressure, self-contained breathing apparatus and full protective equipment.

Auto-ignition temperature (°C): Not applicable.

Flash point (°C), method: Not applicable.

Lower flammability limit (% vol): Not applicable.

Upper flammability limit (% vol): Not applicable.

Explosion Data

Sensitivity to static discharge: Not applicable.

Sensitivity to mechanical impact: Not applicable.

Hazardous combustion products: Oxides of carbon (CO, CO₂).

Explosive power: Not applicable.

Section 5: REACTIVITY DATA

Chemical stability: Stable under normal conditions.

Conditions of instability: Extreme temperatures.
Extreme heat.

Hazardous polymerization: Not available.

Incompatible substances: None known.

Hazardous decomposition products: See hazardous combustion products.

Section 6: TOXICOLOGICAL PROPERTIES

Route of entry: Skin contact, eye contact, ingestion.

Effects of acute exposure

Eye contact: Pre-existing eye disorders may be aggravated by exposure.
May cause irritation.

Skin contact: Pre-existing skin disorders may be aggravated by exposure.
May stain skin.

Inhalation: May be harmful if inhaled.

Ingestion: May cause gastro-intestinal irritation.

Effects of chronic exposure: Target Organs: skin, eyes.

LD50 of product, species & route: Not available.

LC50 of product, species & route: Not available.

Exposure limit of material: Not available.

Sensitization to product: Not available.

Carcinogenic effects: Not listed as a carcinogen.

Reproductive effects: Not available.

Teratogenicity: Not available.

Mutagenicity: Not available.

Synergistic materials: Not available.

Section 7: PREVENTATIVE MEASURES

Precautionary Measures

Gloves/Type:



General work gloves to minimize skin contact.

Respiratory/Type:



Wear a NIOSH approved respirator if TLV is exceeded.

Eye/Type:



Safety glasses.

Footwear/Type: Safety shoes per local regulations.

Clothing/Type:



Lab coat.

Other/Type: Eye wash facility should be in close proximity.
Emergency shower should be in close proximity.

Ventilation requirements: Provide sufficient mechanical ventilation to maintain exposure below TLV.

Leak/Spill: Absorb with inert material.
Wear appropriate protective equipment.
Place in a closed container for disposal.

Waste disposal: In accordance with municipal, provincial and federal regulations.
Incinerate or other approved method in accordance with local, state and federal regulations.

Handling procedures and equipment: Avoid breathing vapors/mists.
Use adequate ventilation.
Wear personal protective equipment appropriate to task.
Wash thoroughly after handling.
Avoid contact with skin, eyes and clothing.
Launder contaminated clothing prior to reuse.

Storage requirements: Keep out of direct sunlight.
Store in a cool and dry place.

Special shipping information: See transportation information.

Section 8: FIRST AID MEASURES

Skin contact: Remove contaminated clothing.
Wash thoroughly with soap and water.
Seek medical attention if irritation persists.

Eye contact: Immediately flush with cool water for at least 20 minutes.
Hold eyelids apart to ensure flushing of entire eye surface.
Get medical attention.

Inhalation: Remove victim to fresh air.
If irritation occurs, consult a physician.

Ingestion: Never give anything by mouth to an unconscious person.
Drink a large amount of water.
Treat symptomatically.
Obtain emergency medical attention.

Additional information: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. This company shall not be held liable for any inaccuracies.

Section 9: ADDITIONAL INFORMATION

General note: This material safety data sheet was prepared from information obtained from various sources, including product suppliers and the Canadian Center for Occupational Health and Safety.

Data prepared by: Lowry & Associates, div. of Chem-Aquascience, Inc
Canadian Master Distributors for Taylor Technologies, Inc.
4-1151 Gorham Street
Newmarket, ON.
L3Y 8Y1
Tel: 905-836-0505
Fax: 905-895-4539.

Supplier MSDS date: 2012/06/08.

This MSDS was generated by *Conform-Plus* Application Service. Visit us at www.netmsds.com.

SULFURIC ACID .12N

Product: CR-0009

Section 1: PRODUCT INFORMATION

Chemical family: Inorganic acid solution.

Product uses: Chemical.

Supplier: Lowry & Associates, div. of Chem-Aquascience, Inc
Canadian Master Distributors for Taylor Technologies, Inc.
4-1151 Gorham Street
Newmarket, ON.
L3Y 8Y1
Tel: 905-836-0505
Fax: 905-895-4539.

Emergency Phone Number: Canutec 613-996-6666.

Manufacturer: Taylor Technologies Inc.
31 Loveton Circle
Sparks, MD USA 21152
Tel: 410-472-4340.

TDG classification: Not regulated.

WHMIS classification:

D2B



DSL status: The substance(s) listed in section 2 appear on the Domestic Substances List.

Product name: Sulfuric Acid .12N.

Section 2: HAZARDOUS INGREDIENTS

| C.A.S. | CONCENTRATION % | Ingredient Name | T.L.V. | LD/50 | LC/50 |
|-----------|-----------------|-----------------|-----------|------------------------|--|
| 7664-93-9 | <1 | SULFURIC ACID | 0.2 MG/M3 | 2140 MG/KG RAT ORAL | 510 MG/M3/2H RAT INHALATION 320 MG/M3/2H MOUSE INHALATION |

Section 2A: ADDITIONAL INGREDIENT INFORMATION

Note: Balance: Water (CAS# 7732-18-5).
(supplier).

Section 3: PHYSICAL DATA

Physical state: Liquid.

Appearance & odor: Odourless.
Clear, colourless.

Odor threshold (ppm): Not available.

Vapour pressure (mmHg): 17

Vapour density (air=1): .6

Volatiles (%)

By volume: 100

**Evaporation rate
(butyl acetate = 1):** Not available.

Boiling point (°C): 100

Freezing point (°C): Not available.

pH: 1.3

Specific gravity @ 20 °C: 1

Solubility in water (%): Soluble.

Coefficient of water\oil dist.: Not available.

| |
|---|
| Section 4: FIRE & EXPLOSION DATA |
|---|

Flammability: Not flammable.

Conditions of flammability: Surrounding fire.

Extinguishing media: Dry chemical.
Carbon dioxide.

Special procedures: Wear a positive–pressure, self–contained breathing apparatus and full protective equipment.

Auto–ignition temperature (°C): Not applicable.

Flash point (°C), method: Not applicable.

**Lower flammability
limit (% vol):** Not applicable.

**Upper flammability
limit (% vol):** Not applicable.

Explosion Data

Sensitivity to static discharge: Not applicable.

Sensitivity to mechanical impact: Not applicable.

Hazardous combustion products: Oxides of sulfur (SO_x).
Hydrogen gas when in contact with metals.

Explosive power: Not applicable.

| |
|-----------------------------------|
| Section 5: REACTIVITY DATA |
|-----------------------------------|

Chemical stability: Stable under normal conditions.

Conditions of instability: Contact with water.
Extreme temperatures.
Extreme heat.

Hazardous polymerization: Not available.

Incompatible substances: Strong alkalis.
Metals.

Hazardous decomposition products: See hazardous combustion products.

Section 6: TOXICOLOGICAL PROPERTIES

Route of entry: Ingestion and skin contact.

Effects of acute exposure

Eye contact: Irritant.
May cause burns.

Skin contact: Irritant.
May cause burns.

Inhalation: May be harmful if inhaled.

Ingestion: May cause gastro-intestinal irritation.

Effects of chronic exposure: Pre-existing eye and skin disorders may be aggravated by exposure to this product.

LD50 of product, species & route: Not available for mixture, see the ingredients section.

LC50 of product, species & route: Not available for mixture, see the ingredients section.

Exposure limit of material: Not available for mixture, see the ingredients section.

Sensitization to product: Not available.

Carcinogenic effects: Not listed as a carcinogen.

Reproductive effects: Not available.

Teratogenicity: Not available.

Mutagenicity: Not available.

Synergistic materials: Not available.

Section 7: PREVENTATIVE MEASURES

Precautionary Measures

Gloves/Type:



General work gloves to minimize skin contact.

Respiratory/Type:



Wear a NIOSH approved respirator if TLV is exceeded.

Eye/Type:



Safety glasses.

Footwear/Type: Safety shoes per local regulations.

Clothing/Type:



Lab coat.

Other/Type: Eye wash facility should be in close proximity.
Emergency shower should be in close proximity.

Ventilation requirements: Provide sufficient mechanical ventilation to maintain exposure below TLV.

Leak/Spill: Absorb with inert material.
Wear appropriate protective equipment.
Neutralize with soda ash.
Place in a closed container for disposal.

Waste disposal: In accordance with municipal, provincial and federal regulations.

Handling procedures and equipment: Avoid breathing vapors/mists.
Use adequate ventilation.
Wear personal protective equipment appropriate to task.
Wash thoroughly after handling.
Avoid contact with skin, eyes and clothing.
Launder contaminated clothing prior to reuse.

Storage requirements: Keep out of direct sunlight.
Store in a cool and dry place.

Special shipping information: See transportation information.

Section 8: FIRST AID MEASURES

Skin contact: Remove contaminated clothing. Wash affected area with soap and water. Get medical attention.

Eye contact: Immediately flush with cool water for at least 20 minutes.
Hold eyelids apart to ensure flushing of entire eye surface.
Get medical attention.

Inhalation: Remove victim to fresh air.
If irritation occurs, consult a physician.

Ingestion: Never give anything by mouth to an unconscious person.
Drink a large amount of water.
Do not induce vomiting, seek immediate medical attention.

Additional information: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. This company shall not be held liable for any inaccuracies.

Section 9: ADDITIONAL INFORMATION

General note: This material safety data sheet was prepared from information obtained from various sources, including product suppliers and the Canadian Center for Occupational Health and Safety.

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Canadian Master Distributors for Taylor Technologies, Inc.
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L3Y 8Y1
Tel: 905–836–0505
Fax: 905–895–4539.

Supplier MSDS date: 2012/06/07.

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CALCIUM BUFFER

Product: CR-0010

Section 1: PRODUCT INFORMATION

Chemical family: Inorganic alkali solution.

Product uses: Chemical.

Supplier: Lowry & Associates, div. of Chem-Aquascience, Inc
Canadian Master Distributors for Taylor Technologies, Inc.
4-1151 Gorham Street
Newmarket, ON.
L3Y 8Y1
Tel: 905-836-0505
Fax: 905-895-4539.

Emergency Phone Number: Canutec 613-996-6666.

Manufacturer: Taylor Technologies Inc.
31 Loveton Circle
Sparks, MD USA 21152
Tel: 410-472-4340.

TDG classification: SODIUM HYDROXIDE SOLUTION
UN1824
Class 8
PG II.



WHMIS classification:

E



DSL status: The substance(s) listed in section 2 appear on the Domestic Substances List.

Product name: Calcium Buffer.

Section 2: HAZARDOUS INGREDIENTS

| C.A.S. | CONCENTRATION % | Ingredient Name | T.L.V. | LD/50 | LC/50 |
|-----------|-----------------|------------------|--------------|---------------|---------------|
| 1310-73-2 | <2 | SODIUM HYDROXIDE | 2 MG/M3 (CL) | NOT AVAILABLE | NOT AVAILABLE |

Section 2A: ADDITIONAL INGREDIENT INFORMATION

Note: Balance: Water (CAS# 7732-18-5).
(supplier).
CAS# 1310-73-2: LD50 140-340 mg/kg oral rat (supplier).

Section 3: PHYSICAL DATA

Physical state: Liquid.

Appearance & odor: Odourless.
Clear, colourless.

Odor threshold (ppm): Not available.

Vapour pressure (mmHg): 17

Vapour density (air=1): .6

Volatiles (%)

By volume: 98

**Evaporation rate
(butyl acetate = 1):** Not available.

Boiling point (°C): 110

Freezing point (°C): Not available.

pH: 13.1

Specific gravity @ 20 °C: 1

Solubility in water (%): Soluble.

Coefficient of water\oil dist.: Not available.

| |
|---|
| Section 4: FIRE & EXPLOSION DATA |
|---|

Flammability: Not flammable.

Conditions of flammability: Surrounding fire.

Extinguishing media: Carbon dioxide, dry chemical, foam.
Water spray.

Special procedures: Wear a positive–pressure, self–contained breathing apparatus and full protective equipment.

Auto–ignition temperature (°C): Not applicable.

Flash point (°C), method: Not applicable.

**Lower flammability
limit (% vol):** Not applicable.

**Upper flammability
limit (% vol):** Not applicable.

Explosion Data

Sensitivity to static discharge: Not applicable.

Sensitivity to mechanical impact: Not applicable.

Hazardous combustion products: Contact with metals may produce flammable hydrogen gas.
Toxic and irritating vapours.

Explosive power: Not applicable.

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|-----------------------------------|
| Section 5: REACTIVITY DATA |
|-----------------------------------|

Chemical stability: Stable under normal conditions.

Conditions of instability: Extreme temperatures.
Extreme heat.

Hazardous polymerization: Not available.

Incompatible substances: Strong acids.
Aldehydes.
Metals.
Organic halogens.

Hazardous decomposition products: See hazardous combustion products.

Section 6: TOXICOLOGICAL PROPERTIES

Route of entry: Ingestion and skin contact.

Effects of acute exposure

Eye contact: Irritant.
May cause burns.

Skin contact: Irritant.
May cause burns.

Inhalation: May be harmful if inhaled.

Ingestion: May cause burns of the mouth, esophagus and stomach.

Effects of chronic exposure: Pre-existing eye and skin disorders may be aggravated by exposure to this product.

LD50 of product, species & route: Not available.

LC50 of product, species & route: Not available.

Exposure limit of material: Not available for mixture, see the ingredients section.

Sensitization to product: Not available.

Carcinogenic effects: Not listed as a carcinogen.

Reproductive effects: Not available.

Teratogenicity: Not available.

Mutagenicity: Not available.

Synergistic materials: Not available.

Section 7: PREVENTATIVE MEASURES

Precautionary Measures

Gloves/Type:



General work gloves to minimize skin contact.

Respiratory/Type:



Wear a NIOSH approved respirator if TLV is exceeded.

Eye/Type:



Safety glasses.

Footwear/Type: Safety shoes per local regulations.

Clothing/Type:



Lab coat.

Other/Type: Eye wash facility should be in close proximity.
Emergency shower should be in close proximity.

Ventilation requirements: Provide sufficient mechanical ventilation to maintain exposure below TLV.

Leak/Spill: Absorb with inert material.
Wear appropriate protective equipment.
Place in a closed container for disposal.
Neutralize with dilute acid.

Waste disposal: In accordance with municipal, provincial and federal regulations.

Handling procedures and equipment: Avoid breathing vapors/mists.
Use adequate ventilation.
Wear personal protective equipment appropriate to task.
Wash thoroughly after handling.
Avoid contact with skin, eyes and clothing.
Launder contaminated clothing prior to reuse.

Storage requirements: Keep out of direct sunlight.
Store in a cool and dry place.

Special shipping information: See transportation information.

Section 8: FIRST AID MEASURES

Skin contact: Remove contaminated clothing. Wash affected area with soap and water. Get medical attention.

Eye contact: Immediately flush with cool water for at least 20 minutes.
Hold eyelids apart to ensure flushing of entire eye surface.
Get medical attention.

Inhalation: Remove victim to fresh air.
If irritation occurs, consult a physician.

Ingestion: Never give anything by mouth to an unconscious person.
Drink a large amount of water.
Do not induce vomiting, seek immediate medical attention.

Additional information: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. This company shall not be held liable for any inaccuracies.

Section 9: ADDITIONAL INFORMATION

General note: This material safety data sheet was prepared from information obtained from various sources, including product suppliers and the Canadian Center for Occupational Health and Safety.

Data prepared by: Lowry & Associates, div. of Chem–Aquascience, Inc
Canadian Master Distributors for Taylor Technologies, Inc.
4–1151 Gorham Street
Newmarket, ON.
L3Y 8Y1
Tel: 905–836–0505
Fax: 905–895–4539.

Supplier MSDS date: 2012/06/07.

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CALCIUM INDICATOR LIQUID

Product: CR-0011L

Section 1: PRODUCT INFORMATION

Chemical family: Alcoholic organic dye solution.

Product uses: Chemical.

Supplier: Lowry & Associates, div. of Chem-Aquascience, Inc
 Canadian Master Distributors for Taylor Technologies, Inc.
 4-1151 Gorham Street
 Newmarket, ON.
 L3Y 8Y1
 Tel: 905-836-0505
 Fax: 905-895-4539.

Emergency Phone Number: Canutec 613-996-6666.

Manufacturer: Taylor Technologies Inc.
 31 Loveton Circle
 Sparks, MD USA 21152
 Tel: 410-472-4340.

TDG classification: FLAMMABLE LIQUID, N.O.S. (isopropyl alcohol)
 UN1993
 Class 3
 PG II.



WHMIS classification:

B2, D2B.



DSL status: The substance(s) listed in section 2 appear on the Domestic Substances List.

Product name: Calcium Indicator Liquid.

Section 2: HAZARDOUS INGREDIENTS

| C.A.S. | CONCENTRATION % | Ingredient Name | T.L.V. | LD/50 | LC/50 |
|-----------|-----------------|-----------------|---------------|--|---|
| 102-71-6 | 77 | TRIETHANOLAMINE | 5 MG/M3 | 4920 UL/KG RAT ORAL 5846 MG/KG MOUSE ORAL 2200 MG/KG RABBIT ORAL > 20 ML/KG RABBIT DERMAL > 16 ML/KG RAT DERMAL > 2000 MG/KG RAT DERMAL | NOT AVAILABLE |
| 2538-85-4 | <1 | CALCON | NOT AVAILABLE | NOT AVAILABLE | NOT AVAILABLE |
| 67-63-0 | 23 | 2-PROPANOL | 200 PPM | 5000 MG/KG RAT ORAL 3600 MG/KG MOUSE ORAL 6410 MG/KG | 53,000 MG/M3 MOUSE INHALATION 72,600 MG/M3 RAT INHALATION 16,000 PPM/8H RAT INHALATION |

| | | | | | |
|--|--|--|--|--|--|
| | | | | RABBIT ORAL 12,800 MG/KG RABBIT DERMAL | |
|--|--|--|--|--|--|

Section 2A: ADDITIONAL INGREDIENT INFORMATION

Note: (supplier).
CAS# 102-71-6: LD50 8680 mg/kg – rat oral.

Section 3: PHYSICAL DATA

Physical state: Liquid.

Appearance & odor: Ammonia odour.
Dark purple.

Odor threshold (ppm): Not available.

Vapour pressure (mmHg): Not available.

Vapour density (air=1): 2

Volatiles (%)

By volume: 99

**Evaporation rate
(butyl acetate = 1):** Not available.

Boiling point (°C): 260–315.5

Freezing point (°C): Not available.

pH: 10.3

Specific gravity @ 20 °C: 1.02

Solubility in water (%): Soluble.

Coefficient of water\oil dist.: Not available.

Section 4: FIRE & EXPLOSION DATA

Flammability: Flammable.

Conditions of flammability: Heat, sparks and open flames.

Extinguishing media: Carbon dioxide, dry chemical, foam.
Water spray.

Special procedures: Use water to cool fire exposed containers.
Wear a positive-pressure, self-contained breathing apparatus and full protective equipment.
Use water fog to knock down vapours.

Auto-ignition temperature (°C): Not applicable.

Flash point (°C), method: Not applicable.

**Lower flammability
limit (% vol):** Not applicable.

**Upper flammability
limit (% vol):** Not applicable.

Explosion Data

- Sensitivity to static discharge:** Not applicable.
- Sensitivity to mechanical impact:** Not applicable.
- Hazardous combustion products:** Carbon monoxide (CO).
Oxides of nitrogen (NO_x).
- Explosive power:** Not applicable.

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| Section 5: REACTIVITY DATA |
|-----------------------------------|

- Chemical stability:** Stable under normal conditions.
- Conditions of instability:** Extreme temperatures.
Extreme heat.
- Hazardous polymerization:** Not available.
- Incompatible substances:** Strong acids.
Strong oxidizers.
- Hazardous decomposition products:** See hazardous combustion products.

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| Section 6: TOXICOLOGICAL PROPERTIES |
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- Route of entry:** Skin contact, inhalation and ingestion.
- Effects of acute exposure
- Eye contact:** Irritant.
- Skin contact:** May cause dermatitis.
May stain skin.
May cause irritation.
- Inhalation:** Irritant.
May cause narcosis.
- Ingestion:** Irritant.
May cause severe irritation of the gastrointestinal tract.
- Effects of chronic exposure:** Pre-existing eye, skin and respiratory disorders may be aggravated.
- LD50 of product, species & route:** Not available for mixture, see the ingredients section.
- LC50 of product, species & route:** Not available for mixture, see the ingredients section.
- Exposure limit of material:** Not available for mixture, see the ingredients section.
- Sensitization to product:** Not available.
- Carcinogenic effects:** Not listed as a carcinogen.
- Reproductive effects:** Not available.
- Teratogenicity:** Not available.
- Mutagenicity:** Not available.
- Synergistic materials:** Not available.

Section 7: PREVENTATIVE MEASURES

Precautionary Measures

Gloves/Type:



General work gloves to minimize skin contact.

Respiratory/Type:



Wear a NIOSH approved respirator if TLV is exceeded.

Eye/Type:



Safety glasses.

Footwear/Type: Safety shoes per local regulations.

Clothing/Type:



Lab coat.

Other/Type: Eye wash facility should be in close proximity.
Emergency shower should be in close proximity.

Ventilation requirements: Provide sufficient mechanical ventilation to maintain exposure below TLV.

Leak/Spill: Absorb with inert material.
Wear appropriate protective equipment.
Place in a closed container for disposal.

Waste disposal: In accordance with municipal, provincial and federal regulations.

Handling procedures and equipment: Avoid breathing vapors/mists.
Use adequate ventilation.
Wear personal protective equipment appropriate to task.
Wash thoroughly after handling.
Avoid contact with skin, eyes and clothing.
Launder contaminated clothing prior to reuse.

Storage requirements: Keep out of direct sunlight.
Store in a cool, dry and well ventilated area.

Special shipping information: See transportation information.

Section 8: FIRST AID MEASURES

Skin contact: Remove contaminated clothing. Wash affected area with soap and water. Get medical attention.

Eye contact: Immediately flush with cool water for at least 20 minutes.
Hold eyelids apart to ensure flushing of entire eye surface.
Get medical attention.

Inhalation: Remove victim to fresh air.
Obtain immediate medical attention.

Ingestion: Induce vomiting as directed by medical personnel.
Never give anything by mouth to an unconscious person.
Drink a large amount of water.
Obtain emergency medical attention.

Additional information: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. This company shall not be held liable for any inaccuracies.

| |
|--|
| Section 9: ADDITIONAL INFORMATION |
|--|

General note: This material safety data sheet was prepared from information obtained from various sources, including product suppliers and the Canadian Center for Occupational Health and Safety.

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Canadian Master Distributors for Taylor Technologies, Inc.
4–1151 Gorham Street
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L3Y 8Y1
Tel: 905–836–0505
Fax: 905–895–4539.

Supplier MSDS date: 2012/06/07.

This MSDS was generated by *Conform–Plus* Application Service. Visit us at www.netmsds.com.

HARDNESS REAGENT

Product: CR-0012

Section 1: PRODUCT INFORMATION

Chemical family: Organic chelant solution.

Product uses: Chemical.

Supplier: Lowry & Associates, div. of Chem-Aquascience, Inc
Canadian Master Distributors for Taylor Technologies, Inc.
4-1151 Gorham Street
Newmarket, ON.
L3Y 8Y1
Tel: 905-836-0505
Fax: 905-895-4539.

Emergency Phone Number: Canutec 613-996-6666.

Manufacturer: Taylor Technologies Inc.
31 Loveton Circle
Sparks, MD USA 21152
Tel: 410-472-4340.

TDG classification: Not regulated.

WHMIS classification:

D2B



DSL status: The substance(s) listed in section 2 appear on the Domestic Substances List.

Product name: Hardness Reagent.

Section 2: HAZARDOUS INGREDIENTS

| C.A.S. | CONCENTRATION % | Ingredient Name | T.L.V. | LD/50 | LC/50 |
|---------|-----------------|--------------------------------|---------------|------------------------|---------------|
| 60-00-4 | <5 | ETHYLENEDIAMINETETRACETIC ACID | NOT AVAILABLE | 30 MG/KG MOUSE ORAL | NOT AVAILABLE |

Section 2A: ADDITIONAL INGREDIENT INFORMATION

Note: Balance: Water (CAS# 7732-18-5).
(supplier).

Section 3: PHYSICAL DATA

Physical state: Liquid.

Appearance & odor: Odourless.
Clear, colourless.

Odor threshold (ppm): Not available.

Vapour pressure (mmHg): 17

Vapour density (air=1): .6

Volatiles (%)

By volume: 99

**Evaporation rate
(butyl acetate = 1):** Not available.

Boiling point (°C): 100

Freezing point (°C): Not available.

pH: 8.1

Specific gravity @ 20 °C: 1

Solubility in water (%): Soluble.

Coefficient of water\oil dist.: Not available.

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| Section 4: FIRE & EXPLOSION DATA |
|---|

Flammability: Not flammable.

Conditions of flammability: Surrounding fire.

Extinguishing media: Carbon dioxide, dry chemical, foam.
Water spray.

Special procedures: Wear a positive–pressure, self–contained breathing apparatus and full protective equipment.

Auto–ignition temperature (°C): Not applicable.

Flash point (°C), method: Not applicable.

**Lower flammability
limit (% vol):** Not applicable.

**Upper flammability
limit (% vol):** Not applicable.

Explosion Data

Sensitivity to static discharge: Not applicable.

Sensitivity to mechanical impact: Not applicable.

Hazardous combustion products: Oxides of nitrogen (NO_x).
Oxides of sodium (NaO_x).

Explosive power: Not applicable.

| |
|-----------------------------------|
| Section 5: REACTIVITY DATA |
|-----------------------------------|

Chemical stability: Stable under normal conditions.

Conditions of instability: Extreme temperatures.
Extreme heat.

Hazardous polymerization: Not available.

Incompatible substances: None known.

**Hazardous decomposition
products:** See hazardous combustion products.

Section 6: TOXICOLOGICAL PROPERTIES

Route of entry: Ingestion and skin contact.

Effects of acute exposure

Eye contact: May cause irritation.

Skin contact: May cause irritation.

Inhalation: May be harmful if inhaled.

Ingestion: May cause gastro-intestinal irritation.

Effects of chronic exposure: Pre-existing eye and skin disorders may be aggravated by exposure to this product.

LD50 of product, species & route: Not available for mixture, see the ingredients section.

LC50 of product, species & route: Not available.

Exposure limit of material: Not available.

Sensitization to product: Not available.

Carcinogenic effects: Not listed as a carcinogen.

Reproductive effects: Not available.

Teratogenicity: Not available.

Mutagenicity: Not available.

Synergistic materials: Not available.

Section 7: PREVENTATIVE MEASURES

Precautionary Measures

Gloves/Type:



General work gloves to minimize skin contact.

Respiratory/Type:



Wear a NIOSH approved respirator if TLV is exceeded.

Eye/Type:



Safety glasses.

Footwear/Type: Safety shoes per local regulations.

Clothing/Type:



Lab coat.

Other/Type: Eye wash facility should be in close proximity.
Emergency shower should be in close proximity.

Ventilation requirements: Provide sufficient mechanical ventilation to maintain exposure below TLV.

Leak/Spill: Absorb with inert material.
Wear appropriate protective equipment.
Place in a closed container for disposal.

Waste disposal: In accordance with municipal, provincial and federal regulations.

Handling procedures and equipment: Avoid breathing vapors/mists.
Use adequate ventilation.
Wear personal protective equipment appropriate to task.
Wash thoroughly after handling.
Avoid contact with skin, eyes and clothing.
Launder contaminated clothing prior to reuse.

Storage requirements: Keep out of direct sunlight.
Store in a cool and dry place.

Special shipping information: See transportation information.

Section 8: FIRST AID MEASURES

Skin contact: Remove contaminated clothing. Wash affected area with soap and water. Get medical attention.

Eye contact: Immediately flush with cool water for at least 20 minutes.
Hold eyelids apart to ensure flushing of entire eye surface.
Get medical attention.

Inhalation: Remove victim to fresh air.
If irritation occurs, consult a physician.

Ingestion: Never give anything by mouth to an unconscious person.
Drink a large amount of water.
Obtain emergency medical attention.

Additional information: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. This company shall not be held liable for any inaccuracies.

Section 9: ADDITIONAL INFORMATION

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4–1151 Gorham Street
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Tel: 905–836–0505
Fax: 905–895–4539.

Supplier MSDS date: 2012/06/07.

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CYANURIC ACID REAGENT

Product: CR-0013

Section 1: PRODUCT INFORMATION

Chemical family: Organic salt solution.

Product uses: Chemical.

Supplier: Lowry & Associates, div. of Chem-Aquascience, Inc
Canadian Master Distributors for Taylor Technologies, Inc.
4-1151 Gorham Street
Newmarket, ON.
L3Y 8Y1
Tel: 905-836-0505
Fax: 905-895-4539.

Emergency Phone Number: Canutec 613-996-6666.

Manufacturer: Taylor Technologies Inc.
31 Loveton Circle
Sparks, MD USA 21152
Tel: 410-472-4340.

TDG classification: Not regulated.

WHMIS classification: Not controlled.

DSL status: Not available.

Product name: Cyanuric Acid Reagent.

Section 2: HAZARDOUS INGREDIENTS

| C.A.S. | CONCENTRATION % | Ingredient Name | T.L.V. | LD/50 | LC/50 |
|--------|-----------------|--------------------------|---------------|---------------|---------------|
| | <1 | NO HAZARDOUS INGREDIENTS | NOT AVAILABLE | NOT AVAILABLE | NOT AVAILABLE |

Section 2A: ADDITIONAL INGREDIENT INFORMATION

Note: Balance: Water (CAS# 7732-18-5).
(supplier).

Section 3: PHYSICAL DATA

Physical state: Liquid.

Appearance & odor: Odourless.
Clear, colourless.

Odor threshold (ppm): Not available.

Vapour pressure (mmHg): 17

Vapour density (air=1): .6

Volatiles (%)

By volume: 99

**Evaporation rate
(butyl acetate = 1):** Not available.

Boiling point (°C): 100

Freezing point (°C): Not available.

pH: 5.8

Specific gravity @ 20 °C: 1

Solubility in water (%): Soluble.

Coefficient of water\oil dist.: Not available.

Section 4: FIRE & EXPLOSION DATA

Flammability: Not flammable.

Conditions of flammability: Surrounding fire.

Extinguishing media: Carbon dioxide, dry chemical, foam.
Water spray.

Special procedures: Wear a positive–pressure, self–contained breathing apparatus and full protective equipment.

Auto–ignition temperature (°C): Not applicable.

Flash point (°C), method: Not applicable.

Lower flammability limit (% vol): Not applicable.

Upper flammability limit (% vol): Not applicable.

Explosion Data

Sensitivity to static discharge: Not applicable.

Sensitivity to mechanical impact: Not applicable.

Hazardous combustion products: Oxides of nitrogen (NO_x).
Cyanides.

Explosive power: Not applicable.

Section 5: REACTIVITY DATA

Chemical stability: Stable under normal conditions.

Conditions of instability: Extreme temperatures.
Extreme heat.

Hazardous polymerization: Not available.

Incompatible substances: Strong oxidizers.
Fluorine.

Hazardous decomposition products: See hazardous combustion products.

Section 6: TOXICOLOGICAL PROPERTIES

Route of entry: Ingestion and skin contact.

Effects of acute exposure

Eye contact: May cause irritation.

Skin contact: May cause irritation.

Inhalation: May be harmful if inhaled.

Ingestion: May cause gastro-intestinal irritation.

Effects of chronic exposure: Pre-existing eye and skin disorders may be aggravated by exposure to this product.

LD50 of product, species & route: Not available.

LC50 of product, species & route: Not available.

Exposure limit of material: Not available.

Sensitization to product: Not available.

Carcinogenic effects: Not listed as a carcinogen.

Reproductive effects: Not available.

Teratogenicity: Not available.

Mutagenicity: Not available.

Synergistic materials: Not available.

Section 7: PREVENTATIVE MEASURES

Precautionary Measures

Gloves/Type:



General work gloves to minimize skin contact.

Respiratory/Type:



Wear a NIOSH approved respirator if TLV is exceeded.

Eye/Type:



Safety glasses.

Footwear/Type: Safety shoes per local regulations.

Clothing/Type:



Lab coat.

Other/Type: Eye wash facility should be in close proximity.
Emergency shower should be in close proximity.

Ventilation requirements: Provide sufficient mechanical ventilation to maintain exposure below TLV.

Leak/Spill: Absorb with inert material.
Wear appropriate protective equipment.
Neutralize with soda ash.
Place in a closed container for disposal.

Waste disposal: In accordance with municipal, provincial and federal regulations.

Handling procedures and equipment: Avoid breathing vapors/mists.
Use adequate ventilation.
Wear personal protective equipment appropriate to task.
Wash thoroughly after handling.
Avoid contact with skin, eyes and clothing.
Launder contaminated clothing prior to reuse.

Storage requirements: Keep out of direct sunlight.
Store in a cool and dry place.

Special shipping information: See transportation information.

Section 8: FIRST AID MEASURES

Skin contact: Remove contaminated clothing.
Wash thoroughly with soap and water.
Seek medical attention if irritation persists.

Eye contact: Immediately flush with cool water for at least 20 minutes.
Hold eyelids apart to ensure flushing of entire eye surface.
Get medical attention.

Inhalation: Remove victim to fresh air.
If irritation occurs, consult a physician.

Ingestion: Never give anything by mouth to an unconscious person.
Drink a large amount of water.
Obtain emergency medical attention.

Additional information: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. This company shall not be held liable for any inaccuracies.

Section 9: ADDITIONAL INFORMATION

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