

## Section 1: Identification

**MANUFACTURER:** PACE Technologies  
3601 E. 34<sup>th</sup> St.  
Tucson, AZ 85713

**INFORMATION PHONE:** 520-882-6598

**EMERGENCY PHONE:** CHEMTREC 800-424-9300 (US) Day or night  
Customer No. 16568


**TRADE NAME:** Klemms & Klemm's II Reagent

**HMIS RATING:** HEALTH: 2 FLAMMABILITY: 0 REACTIVITY: 2

**HAZARD RATING:**

LEAST: 0 SLIGHT: 1 MODERATE: 2 HIGH: 3 EXTREME: 4

## Section 2: Hazard(s) Identification

<b>GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)</b>	Serious eye damage (Category 1), H318
<b>PICTOGRAM(s):</b>	
<b>SIGNAL WORD:</b>	Danger
<b>HAZARD STATEMENTS:</b>	<b>Hazard Statement(s):</b> H318 - Causes serious eye damage
<b>PRECAUTIONARY STATEMENTS:</b>	<b>Precautionary Statement(s):</b>  <b>Preventions:</b> P280- Wear protective gloves/protective clothing/eye protection/face protection.  <b>Response:</b> P305+P351+P338- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

	P310- Immediately call a POISON CENTER or doctor/physician.  <b>Storage:</b> N/A  <b>Disposal:</b> N/A
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### Emergency Overview

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**WARNING! HARMFUL IF SWALLOWED. MAY CAUSE ALLERGIC REACTION.  
MAY CAUSE IRRITATION TO SKIN, EYES, AND RESPIRATORY TRACT.**

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Health Rating: 2 - Moderate (Life)

Flammability Rating: 0 - None

Reactivity Rating: 2 - Moderate

Contact Rating: 2 - Moderate

Lab Protective Equip: GOGGLES & SHIELD; LAB COAT & APRON; VENT HOOD;  
PROPER GLOVES

Storage Color Code: Green (General Storage)

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### Potential Health Effects

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Although only moderately toxic in large amounts, sulfites can pose risk to some asthmatics producing central nervous system depression, bronchoconstriction and anaphylaxis.

**Inhalation:**

May cause irritation to the respiratory tract. Symptoms may include coughing and shortness of breath. Use of bronchodilators preserved with sulfites can cause allergic reactions.

**Ingestion:**

Low level of toxicity by ingestion. Diarrhea may occur by ingestion of large quantities.

**Skin Contact:**

May cause irritation and possibly dermatitis.

**Eye Contact:**

May cause irritation, redness and pain.

**Chronic Exposure:**

Chronic exposure may cause skin effects.

**Aggravation of Pre-existing Conditions:**

Some asthmatics are said to be dangerously sensitive to minute amounts of sulfites in foods and some bronchodilator medications preserved with sulfites.

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### Section 3: Composition/Information on Ingredients

#### HAZARD INGREDIENTS

CHEMICAL	CAS NUMBER	% PRESENT	Hazardous
Sodium Thiosulfate	7772-98-7	25-50%	Yes
Potassium Metabisulfite	16731-55-5	5-10%	Yes
Water	7732-18-5	70-85%	No

### Section 4: First-Aid Measures

**Inhalation:**

Remove to fresh air. Get medical attention for any breathing difficulty.

**Ingestion:**

Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention.

**Skin Contact:**

Wash exposed area with soap and water. Get medical advice if irritation develops.

**Eye Contact:**

Wash thoroughly with running water. Get medical advice if irritation develops.

### Section 5: Fire-Fighting Measures

**Fire:**

Not considered to be a fire hazard, however, may ignite in milling, grinding, other conditions of high friction. Toxic gases are given off in a fire.

**Explosion:**

Not considered to be an explosion hazard.

**Fire Extinguishing Media:**

Use any means suitable for extinguishing surrounding fire.

**Special Information:**

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

### Section 6: Accidental Release Measures

Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in

Section 8. Spills: Sweep up and containerize for reclamation or disposal. Vacuuming or wet sweeping may be used to avoid dust dispersal.

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## **Section 7: Handling and Storage**

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Isolate from incompatible substances. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

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## **Section 8: Exposure Controls/ Personal Protection**

### **Airborne Exposure Limits:**

None established.

### **Ventilation System:**

A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

### **Personal Respirators (NIOSH Approved):**

For conditions of use where exposure to dust or mist is apparent and engineering controls are not feasible, a particulate respirator (NIOSH type N95 or better filters) may be worn. If oil particles (e.g. lubricants, cutting fluids, glycerine, etc.) are present, use a NIOSH type R or P filter. For emergencies or instances where the exposure levels are not known, use a full-face positive-pressure, air-supplied respirator. WARNING: Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

### **Skin Protection:**

Wear protective gloves and clean body-covering clothing.

### **Eye Protection:**

Use chemical safety goggles. Maintain eye wash fountain and quick-drench facilities in work area.

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## **Section 9: Physical and Chemical Properties**

### **Appearance:**

White or colorless

### **Odor:**

Sulfur dioxide

### **Solubility:**

79g/100 ml water @ 4C (39F)

**Density:**

1.75-1.9

**pH:**

No information found.

**% Volatiles by volume @ 21C (70F):**

0

**Boiling Point:**

> 100C (> 212F)

**Melting Point:**

48C (118F) Loses water @ 100C (212F)

**Vapor Density (Air=1):**

No information found.

**Vapor Pressure (mm Hg):**

No information found.

**Evaporation Rate (BuAc=1):**

No information found.

## Section 10: Stability and Reactivity

**Stability:**

Stable under ordinary conditions of use and storage. Stability limited in solution.

**Hazardous Decomposition Products:**

Oxides of sulfur and hydrogen sulfide. Reaction with acids may release sulfur dioxide.

**Hazardous Polymerization:**

Will not occur.

**Incompatibilities:**

Sodium nitrate, halogens, and oxidizing agents. Strong acids, water, most common metals, and nitrates. Reacts with acids to release sulfur dioxide.

**Conditions to Avoid:**

Heat, moisture, air, incompatibles.

## Section 11: Toxicological Information

No LD50/LC50 information found relating to normal routes of occupational exposure.

-----\Cancer Lists\-----			
Ingredient	---NTP Carcinogen---		IARC Category
	Known	Anticipated	
Sodium Thiosulfate (7772-98-7)	No	No	None
Potassium Metabisulfite (16731-55-8)	No	No	3
Water (7732-18-5)	No	No	None

## Section 12: Ecological Information

### Environmental Fate:

No information found.

### Environmental Toxicity:

No information found.

## Section 13: Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

## Section 14: Transportation Information

**DOT (CFR49):** NOT REGULATED.

**IATA (air):** NOT REGULATED.

**IMDG (ocean):** NOT REGULATED.

**HAZARD CLASSIFICATION:** NON-HAZARDOUS.

**PACKING GROUP:** NOT REGULATED.

**UN/NA CODE:** NOT REGULATED.

## Section 15: Regulatory Information

-----\Chemical Inventory Status - Part 1\-----	TSCA	EC	Japan	Australia
Ingredient	-----	-----	-----	-----
Sodium Thiosulfate (7772-98-7)	Yes	Yes	Yes	Yes
Potassium Metabisulfite (16731-55-8)	Yes	Yes	Yes	Yes

-----\Chemical Inventory Status - Part 2\-----

Ingredient	--Canada--			
	Korea	DSL	NDSL	Phil.
Sodium Thiosulfate (7772-98-7)	Yes	Yes	No	Yes
Potassium Metabisulfite (16731-55-8)	Yes	Yes	No	Yes

-----\Federal, State & International Regulations - Part 1\-----

Ingredient	-SARA 302-		-----SARA 313-----	
	RQ	TPQ	List	Chemical Catg.
Sodium Thiosulfate (7772-98-7)	No	No	No	No
Potassium Metabisulfite (16731-55-8)	No	No	No	No

-----\Federal, State & International Regulations - Part 2\-----

Ingredient	CERCLA	-RCRA-	-TSCA-
		261.33	8 (d)
Sodium Thiosulfate (7772-98-7)	No	No	No
Potassium Metabisulfite (16731-55-8)	No	No	No

Chemical Weapons Convention: No      TSCA 12(b): No      CDTA: No  
 SARA 311/312: Acute: Yes      Chronic: No      Fire: No      Pressure: No  
 Reactivity: No      (Mixture / Liquid)

**Australian Hazchem Code:** None allocated.

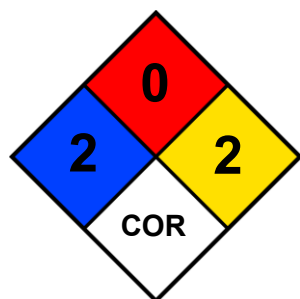
**Poison Schedule:** None allocated.

**WHMIS:**

This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

## Section 16: Other Information

### 16.1 NFPA 704



**Top, Flammability: 0 – Minimal Hazard**

**Left, Health Hazard: 2 – Moderate Hazard**

**Right, Reactivity: 2 – Moderate Hazard**

**Bottom, Special Notice: COR – Corrosive**

**Label First Aid:**

If inhaled, remove to fresh air. Get medical attention for any breathing difficulty. In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes. Get medical attention if irritation develops or persists. If swallowed, induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person.

**Product Use:**

Laboratory Reagent.

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