

# SAFETY DATA SHEET

## SECTION 1 - IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

### 1.1 Product Identifier

**Product Name:** Diogenes Reagent

**Product Number:** CL-202A

### 1.2 Relevant Identified Uses of the Substance/Mixture and Uses Advised Against

Investigational research by professional users

### 1.3 Details of the Supplier of the Safety Data Sheet

#### Manufacturer

National Diagnostics  
305 Patton Drive  
Atlanta, GA 30036  
(404) 699-2121  
(800) 526-3867  
info@nationaldiagnostics.com

#### Agent

AGTC Bioproducts  
Unit 4 Fleet Business Park  
Itlings Lane, Hessle  
East Riding of Yorkshire HU139LX  
44(0) 1482 646020  
office@agtcbioproducts.com

### 1.4 Emergency Telephone Number

#### Chemtrec

1-800 424-9300 (U.S. & Canada)  
01-703-527-3887 (outside U.S. & Canada)

## SECTION 2 - HAZARDS IDENTIFICATION

### 2.1 Classification of the Substance or Mixture

**Classification according to Regulation (EC) No. 1272/2008 [EU-GHS/CLP]**

H302 - Acute Toxicity-Oral (Category 4)  
H312 - Acute Toxicity-Dermal (Category 4)  
H332 - Acute Toxicity-Inhalation (Category 4)

### 2.2 Label Elements

#### GHS LABEL ELEMENTS AND CLASSIFICATION

##### GHS Label Elements



#### WARNING

H302 - Harmful if swallowed  
H312 - Harmful in contact with skin.  
H332 - Harmful if inhaled.  
P262 - Do not get into eyes, on skin or on clothing.  
P302+P352 - IF ON SKIN: Wash with plenty of soap and water.  
P304+P341 - IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.  
P301+P312 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician IF you feel unwell.

### 2.3 Other Hazards

None found.

## SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

### 3.2 Mixture

#### Chemical Names/Description

Component of the Diogenes system for superoxide detection.

#### Component List

Component	% Comp.	CAS #	EC #	1278/2008 Classification
SODIUM ORTHOVANADATE	90-100	13721-39-6	237-287-9	H302, H312, H332
PROPRIETARY PHOSPHORS	<10			N.A.

## SECTION 4 - FIRST AID MEASURES

### 4.1 Description of First Aid Measures

#### Inhalation

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

### **Ingestion**

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

### **Skin**

Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.

### **Eyes**

Immediately flush eyes with plenty of water for at least fifteen minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

## **4.2 Most Important Symptoms and Effects, Both Acute and Delayed**

### **Inhalation**

#### **SODIUM ORTHOVANADATE:**

The toxicological properties of this substance have not been fully investigated.

#### **PROPRIETARY PHOSPHORS:**

No data

### **Ingestion**

#### **SODIUM ORTHOVANADATE:**

The toxicological properties of this substance have not been fully investigated.

#### **PROPRIETARY PHOSPHORS:**

No data

### **Skin**

#### **SODIUM ORTHOVANADATE:**

May cause skin irritation.

#### **PROPRIETARY PHOSPHORS:**

No data

### **Eyes**

#### **SODIUM ORTHOVANADATE:**

May cause eye irritation.

#### **PROPRIETARY PHOSPHORS:**

No data

## **4.3 Indication of Any Immediate Medical Attention and Special Treatment Needed**

Unknown/not applicable

## **SECTION 5 - FIRE FIGHTING MEASURES**

### **5.1 Extinguishing media**

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

### **5.2 Special Hazards Arising from the Substance/Mixture**

#### **Hazardous Combustion Products**

N.A.

#### **Hazardous Decomposition Products**

No information available.

#### **Hazardous Polymeriation**

Has not been reported

### **5.3 Advice for Firefighters**

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.

### **5.4 Further Information**

No data available.

## **SECTION 6 - ACCIDENTAL RELEASE MEASURES**

### **6.1 Personal Precautions**

Wear appropriate protective equipment as specified in Section 8.

## 6.2 Environmental Precautions

Prevent discharge into the environment. Dike spills and stop leakage where practical. Do not allow material to enter drains.

## 6.3 Methods and Materials for Containment and Cleaning Up

Contain spills with absorbing material such as sawdust. Sweep and place in covered disposal container. Wash area with water.

## 6.4 References to Other Sections

For disposal information, see Section 13. For Protective clothing and equipment, see Section 8.

# SECTION 7 - HANDLING AND STORAGE

## 7.1 Precautions for Safe Handling

Avoid contact and inhalation. Do not get in eyes, on skin, on clothing. Wash thoroughly after handling.

## 7.2 Conditions for Safe Storage (including any incompatibles)

Keep in a tightly closed container, stored in a cooled, dry, ventilated area. Protect from physical damage. Isolate from incompatible materials (section 10).

### Incompatibles

#### SODIUM ORTHOVANADATE:

Strong oxidizing agents.

#### PROPRIETARY PHOSPHORS:

Strong oxidizing agents, strong acids, strong bases and strong reducing agents.

## 7.3 Specific End Uses

Investigational research by professional users

# SECTION 8 - EXPOSURE CONTROLS/PERSONAL PRECAUTIONS

## 8.1 Control Parameters

### Component: SODIUM ORTHOVANADATE

ACGIH Threshold Limit Value (TLV): .05 mg/m<sup>3</sup>

OSHA Permissible Exposure Limit (PEL): .05 mg/m<sup>3</sup>

### Component: PROPRIETARY PHOSPHORS

ACGIH Threshold Limit Value (TLV): No data

OSHA Permissible Exposure Limit (PEL): No data

## 8.2 Exposure Controls

### Engineering Controls

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source.

### Respiratory Protection

For conditions of use where exposure to the dust or mist is apparent, a full-face dust/mist respirator may be worn. For emergencies or instances where the exposure levels are not known, use a full-face positive-pressure, air-supplied respirator.

### Eye Protection

Safety glasses.

### Skin Protection

Wear protective gloves and clean body covering clothing.

# SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

## 9.1 Information on Basic Physical & Chemical Properties

a. Appearance	Solid white wafer	b. Odor	None
c. Odor Threshold	N.A.	d. pH	N.A.
e. Melting/Freezing Point (°C)	N.A.	f. Boiling point (°C)	N.A.
g. Flash Point (°C)	N.A.	h. Evaporation Rate	N.A.
i. Flammability	N.A.	j. Upper/Lower Flammability or Explosive Limits	N.A.
k. Vapor Pressure	N.A.	l. Vapor Density (Air = 1)	N.A.
m. Relative Density	N.A.	n. Water Solubility	N.A.
o. Partition Coefficient n-octanol/water	Mixture	p. Autoignition Temperature (°C)	N.A.

q. Decomposition Temperature (°C) N.A.

s. Explosive Properties N.A.

r. Viscosity

No data available.

t. Oxidizing Properties

Not an oxidizer

## SECTION 10 - STABILITY AND REACTIVITY

### 10.1 Reactivity

Not reactive under normal conditions of use.

### 10.2 Chemical Stability

Stable under recommended conditions of use and storage.

### 10.3 Possibility of Hazardous Reactions

Has not been reported

### 10.4 Conditions to Avoid

Incompatible materials, dust generation.

### 10.5 Incompatible Materials

**SODIUM ORTHOVANADATE:**

Strong oxidizing agents.

**PROPRIETARY PHOSPHORS:**

Strong oxidizing agents, strong acids, strong bases and strong reducing agents.

### 10.6 Hazardous Decomposition Products

No information available.

## SECTION 11 - TOXICOLOGICAL INFORMATION

### Product LD50 Values

#### Oral Rat LD50 (mg/kg)

337

#### Dermal Rabbit LD50 (mg/kg)

No data

### Component Cancer List Status

	NTP Carcinogen		IARC Category
	Known	Anticipated	
SODIUM ORTHOVANADATE	No	No	None
PROPRIETARY PHOSPHORS	No data	N.A.	No data

### Potential Health Effects

#### Inhalation

**SODIUM ORTHOVANADATE**

Harmful if inhaled. May cause respiratory tract irritation.

**PROPRIETARY PHOSPHORS**

No data

#### Ingestion

**SODIUM ORTHOVANADATE**

Harmful if swallowed. May cause irritation of the digestive tract.

**PROPRIETARY PHOSPHORS**

No data

#### Skin

**SODIUM ORTHOVANADATE**

Harmful if absorbed through the skin.

**PROPRIETARY PHOSPHORS**

No data

#### Eyes

**SODIUM ORTHOVANADATE**

May cause eye irritation.

**PROPRIETARY PHOSPHORS**

No data

**Carcinogenicity**

**SODIUM ORTHOVANADATE**

Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

**PROPRIETARY PHOSPHORS**

No information available

**Mutagenicity**

**SODIUM ORTHOVANADATE**

Micronucleus test (human lymphocytes) = 10 umol/L Cytogenic analysis (Human Lymphocyte) = 20 umol/L

**PROPRIETARY PHOSPHORS**

No information available

**Reproductive Toxicity**

**SODIUM ORTHOVANADATE**

TDLo (Oral, mouse) = 300mg/kg; Reproductive - Specific Development Abnormalities - musculoskeletal system.

**PROPRIETARY PHOSPHORS**

No information available

**Teratogenic Effects**

**SODIUM ORTHOVANADATE**

No information available.

**PROPRIETARY PHOSPHORS**

No information available

**Routes of Entry**

**SODIUM ORTHOVANADATE**

Ingestion, inhalation, skin/eye contact.

**PROPRIETARY PHOSPHORS**

No information available

**Target Organ Statement**

**SODIUM ORTHOVANADATE**

No information available.

**PROPRIETARY PHOSPHORS**

No information available

**SECTION 12 - ECOLOGICAL INFORMATION**

**12.1 Toxicity**

**COMPONENT: SODIUM ORTHOVANADATE**

	<b>Vertebrates</b>	<b>Invertebrates</b>	<b>Algae</b>	<b>Microorganisms</b>
Aquatic Toxicity (ppm unless otherwise noted)	No data	No data	No data	No data

	<b>Birds</b>	<b>Arthropods</b>	<b>Plants</b>	<b>Microorganisms</b>
Terrestrial Environment Toxicity (ppm unless otherwise noted)	No data	No data	No data	No data

**COMPONENT: PROPRIETARY PHOSPHORS**

	<b>Vertebrates</b>	<b>Invertebrates</b>	<b>Algae</b>	<b>Microorganisms</b>
Aquatic Toxicity (ppm unless otherwise noted)	No data	No data	No data	No data

	<b>Birds</b>	<b>Arthropods</b>	<b>Plants</b>	<b>Microorganisms</b>
Terrestrial Environment Toxicity (ppm unless otherwise noted)	No data	No data	No data	No data

**12.2 Persistence and Degradability**

**SODIUM ORTHOVANADATE**

No data

**PROPRIETARY PHOSPHORS**

No data

**12.3 Bioaccumulative Potential**

**SODIUM ORTHOVANADATE**

No data

**PROPRIETARY PHOSPHORS**

No data

**12.4 Mobility in Soil**

**SODIUM ORTHOVANADATE**

No data

**PROPRIETARY PHOSPHORS**

No data

**12.5 Results of PBT and vPvB Assessment**

**SODIUM ORTHOVANADATE**

No data

**PROPRIETARY PHOSPHORS**

No data

**12.6 Other Adverse Effects**

**SODIUM ORTHOVANADATE**

None

**PROPRIETARY PHOSPHORS**

None

**SECTION 13 - DISPOSAL CONSIDERATIONS**

**13.1 Waste Treatment Methods**

Offer surplus or non-recyclable product to licensed disposal company. Disposal is subject to user compliance with applicable law and product characteristics at time of disposal. Dispose of packaging as product.

**SECTION 14 - TRANSPORT INFORMATION**

	<b>ADR/RID</b>	<b>IATA</b>	<b>IMO</b>	<b>DOT</b>
<b>14.1 UN Number</b>	N.A.	N.A.	N.A.	N.A.
<b>14.2 Shipping Name</b>	N.A.	No information available.	No information available.	No information available.
<b>14.3 Hazard Class</b>	N.A.	N.A.	N.A.	N.A.
<b>14.4 Packing Group</b>	N.A.	N.A.	N.A.	N.A.
<b>14.5 Environmental Hazards</b>	N.A.	N.A.	N.A.	N.A.
<b>14.6 Special Precautions</b>	N.A.	N.A.	N.A.	N.A.

**SECTION 15 - REGULATORY INFORMATION**

**15.1 Safety, Health and Environmental Regulations/Legislation Specific for the Substance/Mixture**

**United States**

**TSCA Regulatory Statement**

All intentional ingredients are listed on the TSCA Inventory.

**SARA 311/312 Hazard Categories**

<b>Component</b>	<b>Fire</b>	<b>Pressure</b>	<b>Reactivity</b>	<b>Acute</b>	<b>Chronic</b>
SODIUM ORTHOVANADATE	N.A	N.A	N.A	N.A.	N.A
PROPRIETARY PHOSPHORS	N.A	N.A	N.A	N.A.	N.A

**Europe**

**EEC Regulatory**

All intentional ingredients are listed on the European EINECS Inventory.

**SECTION 16 - OTHER INFORMATION**

**Revisional Updates**

5/29/2015 - Updated Sections 2.1 and 3.2

9/27/2013 - Released Version 1.0

**NFPA Codes**

Health 2 Flammability 0 Reactivity 0

## **Dangers**

### **SODIUM ORTHOVANADATE**

H302 - Harmful if swallowed

H312 - Harmful in contact with skin.

H332 - Harmful if inhaled.

### **PROPRIETARY PHOSPHORS**

None

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