

Safety Data Sheet

Material Name: Draeger Tubes™ (which are classified as dangerous goods, PGII)

SDS ID: 4594886

Section 1 - PRODUCT AND COMPANY IDENTIFICATION

Material Name

Draeger Tubes™ (which are classified as dangerous goods, PGII)

Synonyms

H2SO4/SO3, CH 00 216, 67 28 051, CH 25 301, CH 20 001

Restrictions on Use

None known

Details of the supplier of the safety data sheet

US: Draeger Inc.,

3135 Quarry Road,

Telford PA 18969

Phone +1 215-721-5400

Canada: Draeger Safety Canada, Ltd

2425 Skymark Ave, Unit 1

Mississauga, ON L4W 4Y6,

Phone +1 877-372-4371

Emergency Phone #: 1-800-424-9300 (CHEMTREC)

1-866-343-2273 (Internationally)

Section 2 - HAZARDS IDENTIFICATION

Classification in accordance with paragraph (d) of 29 CFR 1910.1200.

Corrosive to Metals - Category 1

Skin Corrosion/Irritation - Category 1

GHS Label Elements

Symbol(s)



Signal Word

Danger

Hazard Statement(s)

May be corrosive to metals

Causes severe skin burns and eye damage



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Precautionary Statement(s)

Prevention

Keep only in original container
Wear protective gloves/protective clothing/eye protection/face protection
Wash thoroughly after handling
Do not breathe dusts or mists

Response

Absorb spillage to prevent material damage
IF INHALED: Remove person to fresh air and keep comfortable for breathing
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower
Wash contaminated clothing before reuse
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
Immediately call a POISON CENTER or doctor
Specific treatment (see label)

Storage

Store locked up
Store in corrosive resistant container with a resistant inner liner

Disposal

Dispose of contents/container in accordance with local/regional/national/international regulations

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

CAS	Component Name	Percent
Not Available	Inert carrier material and glass of the tube	<90
7446-11-9 / 8014-95-7	absorbed sulfuric acid anhydrous / fuming	0-15
7722-64-7	Potassium permanganate	0-0.2
12029-98-0	Iodine oxide (I2O5)	0-0.01

Component Related Regulatory Information

This product may be regulated, have exposure limits or other information identified as the following: sulfuric acid.



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Section 4 - FIRST AID MEASURES

Inhalation

Remove person to fresh air and keep comfortable for breathing. Get medical attention if irritation develops or persists.

Skin

Remove/Take off immediately all contaminated clothing. Wash contaminated clothing before reuse. Get immediate medical attention.

Eyes

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical attention.

Ingestion

Rinse mouth. Do NOT induce vomiting. Get immediate medical attention.

Most Important Symptoms/Effects

Acute

Causes severe skin burns and eye damage. May cause respiratory irritation.

Delayed

No information on significant adverse effects.

Note to Physicians

Neutralize: lime water, Polyethylene glycol 400.

Section 5 - FIRE FIGHTING MEASURES

Extinguishing Media Suitable

Extinguishing Media

Use dry chemical, carbon dioxide, alcohol-resistant foam or water spray. Exothermic reaction with water.

Unsuitable Extinguishing Media

Using water as an extinguishing agent may produce a corrosive solution and an exothermic reaction.

Special Hazards Arising from the Chemical

This material is non-flammable. CONTAINS: fuming sulfuric acid. May react on contact with water. Vapors, mists or liquids may be irritating or corrosive.

Hazardous Combustion Products

toxic oxides of sulfur

Fire Fighting Measures

Move container from fire area if it can be done without risk. Dike for later disposal. Do not get water inside container.



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Special Protective Equipment and Precautions for Firefighters

Wear full protective fire fighting gear including self contained breathing apparatus (SCBA) for protection against possible exposure.

Section 6 - ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

Wear personal protective clothing and equipment, see Section 8.

Methods and Materials for Containment and Cleaning Up

Absorb spill with sand or other non-combustible material. Collect spilled material in appropriate container. Using water as an extinguishing agent may produce a corrosive solution and an exothermic reaction. Eliminate all sources of ignition. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Do not get water inside container.

Environmental Precautions

Avoid release to the environment. Collect spillage.

Section 7 - HANDLING AND STORAGE

Precautions for Safe Handling

CORROSIVE. Do not get in eyes, on skin, or on clothing. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with water. Keep container tightly closed. Wear protective gloves/protective clothing/eye protection/face protection. Wash thoroughly after handling.

Conditions for Safe Storage, Including any Incompatibilities

Store locked up
Store in corrosive resistant container with a resistant inner liner
Keep container tightly closed. Keep dry. Observe the expiry date.

Incompatible Materials

bases, water

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Component Exposure Limits

Potassium permanganate	7722-64-7
ACGIH:	0.02 mg/m ³ TWA as Mn; 0.1 mg/m ³ TWA as Mn (related to Manganese inorganic compounds)



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NIOSH:	1 mg/m ³ TWA as Mn (related to Manganese compounds)
	3 mg/m ³ STEL as Mn (related to Manganese compounds)
	500 mg/m ³ IDLH as Mn (related to Manganese compounds)
OSHA (US):	5 mg/m ³ Ceiling as Mn (related to Manganese compounds)
Mexico:	0.2 mg/m ³ TWA LMPE-PPT as Mn (related to Manganese inorganic compounds)

Biological limit value

There are no biological limit values for any of this product's components.

Engineering Controls

Provide local exhaust ventilation system. Ensure compliance with applicable exposure limits.

Individual Protection Measures, such as Personal Protective Equipment

Eye/face protection

Wear safety goggles with a faceshield. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

Skin Protection

Wear appropriate chemical resistant clothing.

Respiratory Protection

A NIOSH approved air-purifying respirator with an appropriate cartridge or canister may be appropriate under certain circumstances where airborne concentrations are expected to exceed exposure limits.

Glove Recommendations

Wear appropriate chemical resistant gloves.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	glass Test tube colorless to dark brown solid	Physical State	solid
Odor	pungent	Color	Not available
Odor Threshold	Not available	pH	Not Available (strong acidic reaction)
Melting Point	Not available	Boiling Point	Not available
Freezing point	Not available	Evaporation Rate	Not available
Boiling Point Range	Not available	Flammability (solid, gas)	Not available
Autoignition	Not available	Flash Point	Not available



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Lower Explosive Limit	Not available	Decomposition	Not available
Upper Explosive Limit	Not available	Vapor Pressure	Not available
Vapor Density (air=1)	Not available	Specific Gravity (water=1)	Not available
Water Solubility	Extremely hygroscopic	Partition coefficient: n-octanol/water	Not available
Viscosity	Not available	Solubility (Other)	Not available
Density	Not available		

Section 10 - STABILITY AND REACTIVITY

Reactivity

Exothermic reaction with water.

Chemical Stability

Stable under normal conditions of use.

Possibility of Hazardous Reactions

Exothermic reaction with water.

Conditions to Avoid

Avoid contact with water. Avoid contact with incompatible materials.

Incompatible Materials

bases, water

Hazardous decomposition products

toxic oxides of sulfur

Section 11 - TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure

Inhalation

May cause severe respiratory irritation. May cause pulmonary edema.

Skin Contact

Causes severe burns.

Eye Contact

Causes serious eye damage.



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Ingestion

May cause corrosive damage to the gastrointestinal tract on contact.

Acute and Chronic Toxicity

Component Analysis - LD50/LC50

The components of this material have been reviewed in various sources and the following selected endpoints are published:

absorbed sulfuric acid anhydrous / fuming (7446-11-9 / 8014-95-7)

Oral LD50 Rat 2140 mg/kg

Inhalation LC50 Rat 347 ppm 1 h

Potassium permanganate (7722-64-7)

Oral LD50 Rat 750 mg/kg

Immediate Effects

Causes severe skin burns and eye damage.

Delayed Effects

No information on significant adverse effects.

Irritation/Corrosivity Data

Causes severe skin burns and eye damage. May cause corrosive damage to the gastrointestinal tract on contact.

Respiratory Sensitization

No information available for the product.

Dermal Sensitization

No information available for the product.

Component Carcinogenicity

absorbed sulfuric acid anhydrous / fuming	7446-11-9 / 8014-95-7
IARC:	Monograph 54 [1992] (Occupational exposure to mists and vapors from sulfuric acid and other strong inorganic acids) (Group 1 (carcinogenic to humans))
OSHA:	Present
Potassium permanganate	7722-64-7
ACGIH:	A4 - Not Classifiable as a Human Carcinogen (related to Manganese inorganic compounds)

Germ Cell Mutagenicity

No information available for the product.

Tumorigenic Data

No information available for the product.



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Reproductive Toxicity

No information available for the product.

Specific Target Organ Toxicity - Single Exposure

Respiratory system

Specific Target Organ Toxicity - Repeated Exposure

No target organs identified.

Aspiration hazard

No information available for the product.

Medical Conditions Aggravated by Exposure

No data available.

Section 12 - ECOLOGICAL INFORMATION

Component Analysis - Aquatic Toxicity

Potassium permanganate	7722-64-7
Fish:	LC50 96 h Cyprinus carpio 2.97 - 3.11 mg/L; LC50 96 h Cyprinus carpio 3.16 - 3.77 mg/L; LC50 96 h Lepomis macrochirus 2.3 mg/L [flow-through]; LC50 96 h Lepomis macrochirus 1.8 - 5.6 mg/L [static]; LC50 96 h Lepomis macrochirus 2.7 mg/L; LC50 96 h Oncorhynchus mykiss 1.08 - 1.38 mg/L; LC50 96 h Oncorhynchus mykiss 0.769 - 1.27 mg/L [static]

Section 13 - DISPOSAL CONSIDERATIONS

Disposal Methods

Dispose of contents/container in accordance with local/regional/national/international regulations. Hazardous Waste Number(s): D002. Hazardous Waste Number(s): D003. Neutralize: baking powder.

Section 14 - TRANSPORT INFORMATION

US DOT Information:

Shipping Name:CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. (Contains: Absorbed sulfuric acid anhydrous, mixture)

Hazard Class: 8

UN/NA #: UN3260

Packing Group: II

Required Label(s): 8



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TDG Information:

Shipping Name:CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. (Contains: Absorbed sulfuric acid anhydrous, mixture)

Hazard Class: 8

UN#: UN3260

Packing Group: II

Required Label(s): 8

Section 15 - REGULATORY INFORMATION

U.S. Federal Regulations

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), and/or require an OSHA process safety plan.

absorbed sulfuric acid anhydrous / fuming	7446-11-9 / 8014-95-7
CERCLA:	1000 lb final RQ; 454 kg final RQ
OSHA (safety):	1000 lb TQ 65-80% by weight)
Potassium permanganate	7722-64-7
SARA 313:	1 % de minimis concentration (related to Manganese compounds)
CERCLA:	100 lb final RQ; 45.4 kg final RQ

SARA Section 311/312 (40 CFR 370 Subparts B and C)

Acute Health: Yes **Chronic Health:** Yes **Fire:** No **Pressure:** No **Reactivity:** Yes

U.S. State Regulations

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA
absorbed sulfuric acid anhydrous / fuming	7446-11-9 / 8014-95-7	No	Yes	No	Yes	Yes
Potassium permanganate	7722-64-7	Yes	Yes	Yes	Yes	Yes

Not listed under California Proposition 65

Canadian WHMIS Ingredient Disclosure List (IDL)

Components of this material have been checked against the Canadian WHMIS Ingredients Disclosure List. The List is composed of chemicals which must be identified on MSDSs if they are included in products which meet WHMIS criteria specified in the Controlled Products Regulations and are present above the threshold limits listed on the IDL



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Potassium permanganate	7722-64-7
	1 %

Component Analysis - Inventory

absorbed sulfuric acid anhydrous / fuming (7446-11-9 / 8014-95-7)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR - KECI/KECL	KR - TCCA	CN	NZ	MX	TW
No	No	No	Yes	Yes	Yes	No	Yes	No	Yes	Yes	No	Yes

Potassium permanganate (7722-64-7)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR - KECI/KECL	KR - TCCA	CN	NZ	MX	TW
Yes	DSL	EIN	Yes	Yes	Yes	No	Yes	No	Yes	Yes	Yes	Yes

Iodine oxide (I2O5) (12029-98-0)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR - KECI/KECL	KR - TCCA	CN	NZ	MX	TW
Yes	DSL	EIN	Yes	Yes	Yes	No	Yes	No	Yes	Yes	No	No

Section 16 - OTHER INFORMATION

HMIS Rating

Health: 3 Fire: 0 Reactivity: 2

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe * = Chronic hazard

NFPA Ratings

Health: 3 Fire: 0 Reactivity: 2

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

Summary of Changes

New SDS: 6/8/2015

Key / Legend

ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CLP - Classification, Labelling, and Packaging; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSD - Dangerous Substance Directive; DSL - Domestic Substances List; EEC - European Economic



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Community; EINECS - European Inventory of Existing Commercial Chemical Substances; EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; JP - Japan; Kow - Octanol/water partition coefficient; KR - Korea; LEL - Lower Explosive Limit; LLV - Level Limit Value; LOLI - List Of Lists™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PH - Philippines; RCRA - Resource Conservation and Recovery Act; REACH- Registration, Evaluation, Authorisation, and restriction of Chemicals; RID - European Rail Transport; SARA - Superfund Amendments and Reauthorization Act; STEL - Short-term Exposure Limit; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act; TWA - Time Weighted Average; UEL - Upper Explosive Limit; US - United States.

Other Information

Disclaimer:

Supplier gives no warranty whatsoever, including the warranties of merchantability or of fitness for a particular purpose. Any product purchased is sold on the assumption the purchaser shall determine the quality and suitability of the product. Supplier expressly disclaims any and all liability for incidental, consequential or any other damages arising out of the use or misuse of this product. No information provided shall be deemed to be a recommendation to use any product in conflict with any existing patent rights.