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ACCORDING TO OSHA HCS (29 CFR 1910.1200)

## **SECTION 1: IDENTIFICATION**

Product identifier used on the label MCoat JA Part A

Other means of identification Not applicable

Recommended use of the chemical and restrictions

on use

Recommended use Sealants

Restrictions on use For professional users only.

Details of the supplier of the safety data sheet

Supplier VISHAY MEASUREMENTS GROUP, INC.

Address of Supplier Post Office Box 27777
Raleigh, NC 27611

USA

 Telephone
 +1 919-365-3800

 Fax
 +1 919-365-3945

 E-Mail (competent person)
 mm.us@vishaypg.com

Emergency telephone number 1-800-424-9300 CHEMTREC (24 hours)

## SECTION 2: HAZARD(S) IDENTIFICATION

Classification of the substance or mixture in accordance with paragraph (d) of 29 CFR 1910.1200

Physical hazards Not classified

Health hazards Acute toxicity - Oral, Category 4

Skin sensitization, Category 1

Specific target organ toxicity — repeated exposure, Category 1
Environmental hazards Hazardous to the aquatic environment, Chronic, Category 1

Hazard Symbol







Signal Word(s) DANGER

Hazard Statement(s)

Harmful if swallowed.

May cause an allergic skin reaction.

Causes damage to organs through prolonged or repeated exposure.

Very toxic to aquatic life with long lasting effects.

Precautionary Statement(s)

Prevention Wear protective gloves/protective clothing/eye protection/face protection.

Do not breathe vapour.

Wash hands thoroughly after handling.

Do not eat, drink or smoke when using this product.

Contaminated work clothing must not be allowed out of the workplace.

Avoid release to the environment. IF ON SKIN: Wash with plenty of water.

Response IF ON SKIN: Wash with plenty of water.

If skin irritation or rash occurs: Get medical advice/attention.

IF SWALLOWED: Rinse mouth. Call a POISON CENTER/doctor if you feel

unwen.

Wash contaminated clothing before reuse.

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Get medical advice/attention if you feel unwell.

Collect spillage.

Disposal Dispose of contents in accordance with local, state or national legislation.

Other hazards None Known

Percent of the mixture consists of ingredient(s) of

unknown acute toxicity:

0%

#### SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Substances Not applicable

Mixtures Substances in preparations / mixtures

Chemical identity of the substance	%W/W	Synonyms	CAS No.	Hazard classification	
Manganese dioxide	15 - 40	Manganese oxide (MnO2)	1313-13-9	Acute toxicity - Oral, Category 4 Acute toxicity - Inhalation, Category 4 Specific target organ toxicity — repeated exposure, Category 1	
Terphenyl, hydrogenated*	10 - 30	Hydrogenated terphenyl	61788-32-7	Hazardous to the aquatic environment, Chronic Category 2	
Bis (piperidinothiocarbonyl) tetrasulphide	1 - 5	Dipentamethylenethiuram tetrasulfide;  Methanethione, 1,1'-tetrathiobis[1-(1-piperidinyl)-	120-54-7	Skin sensitization, Category 1 Hazardous to the aquatic environment, Chronic Category 2	
Terphenyl	1 - 5	-	26140-60-3	Hazardous to the aquatic environment, Acute, Category 1 Hazardous to the aquatic environment, Chronic, Category 1, M-factor (Chronic): 10	

#### **SECTION 4: FIRST AID MEASURES**

Eye Contact



Description of first aid measures

Self-protection of the first aider

Inhalation IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable

for breathing. IF exposed or concerned: Get medical advice/attention. Apply artificial respiration if necessary (do not employ mouth-to-mouth method).

Skin Contact IF ON SKIN: Wash with plenty of water. If irritation (redness, rash, blistering)

develops, get medical attention. Take off contaminated clothing and wash it before reuse.

No action should be taken involving personal risk. Ensure adequate ventilation. Do not breathe vapour. Wear suitable protective clothing and gloves. Avoid contact with skin and eyes. Contaminated clothing should be laundered before

reuse

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get

medical advice/attention.

Ingestion IF SWALLOWED: Rinse mouth. Do not induce vomiting unless instructed to do so by medical personnel. Call a POISON CENTER/doctor if you feel unwell.

> Harmful if swallowed. May cause an allergic skin reaction. Causes damage to organs through prolonged or repeated exposure.

Most important symptoms and effects, both acute and delayed

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Indication of any immediate medical attention and

special treatment needed

Treat symptomatically.

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

#### **Extinguishing media**

Suitable Extinguishing Media

As appropriate for surrounding fire. Extinguish with carbon dioxide, dry chemical, foam or waterspray.

Unsuitable extinguishing Media

Do not use water jet. Direct water jet may spread the fire.

Special hazards arising from the substance or mixture

May decompose in a fire giving off toxic fumes. Decomposes in a fire giving off toxic fumes: Carbon monoxide, Carbon dioxide, Nitrogen oxides, Sulphur oxides, metal oxides.

Special protective equipment and precautions for fire fighters

Fire fighters should wear complete protective clothing including self-contained breathing apparatus. Do not breathe fumes. Keep containers cool by spraying with water if exposed to fire. Do not allow run-off from fire-fighting to enter drains or water courses. Dike fire control water for later disposal.

#### **SECTION 6: ACCIDENTAL RELEASE MEASURES**

Personal precautions, protective equipment and emergency procedures Caution - spillages may be slippery. Eliminate sources of ignition. Shut off leaks if without risk. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Do not breathe vapour. Use personal protective equipment as required. Remove contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Do not allow to enter drains, sewers or watercourses. Spillages or uncontrolled discharges into watercourses must be alerted to the Environment Agency or other appropriate regulatory body.

Methods and material for containment and cleaning up

Small spillages:

Stop leak if safe to do so. Dilute with water. Adsorb spillages onto sand, earth or any suitable adsorbent material. Ventilate the area and wash spill site after material pick-up is complete. Transfer to a container for disposal. Dispose of this material and its container as hazardous waste.

Large spillages:

Stop leak if safe to do so. Keep upwind. Adsorb spillages onto sand, earth or any suitable adsorbent material. Ventilate the area and wash spill site after material pick-up is complete. Transfer to a container for disposal. Dispose of this material and its container as hazardous waste.

## **SECTION 7: HANDLING AND STORAGE**

Precautions for safe handling

Ensure adequate ventilation. Use personal protective equipment as required. Do not breathe vapour. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Wash hands before breaks and after work. Wash hands thoroughly after handling. Take off contaminated clothing and wash it before reuse. Contaminated work clothing should not be allowed out of the workplace.

Store in a well-ventilated place. Keep container tightly closed. Keep cool. Keep

Conditions for safe storage, including any incompatibilities

away from heat, sources of ignition and direct sunlight. Store above ( $\mathfrak{C}$ ): 5 (41  $\mathfrak{F}$ )

Storage temperature Storage life

Stable under normal conditions

Incompatible materials

None known.

## **SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

#### **Occupational Exposure Limits**

Substance	CAS No.	LTEL (8 hr TWA	LTEL (8 hr TWA	STEL	STEL	Note	Source	1
		ppm)	mg/m³)	(ppm)	(mg/m³)		Source	

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Manganese dioxide (inorganic manganese compound)	1313-13-9	=	0.1	-	=	IPM	ACGIH
		-	1	-	3	-	NIOSH
		-	5	-	-	С	OSHA
Terphenyls, Hydrogenated	61788-32-7	0.5	-	-	-	Non- irradiated	ACGIH
		0.5	5	-	-		NIOSH
Talc	14807-96-6	-	2	-	-	A4	ACGIH
Magnesium carbonate	546-93-0	-	10	-	-	Total	NIOSH
		-	5	-	-	Respirable	
		-	15	-	-	Total	OSHA
		•	5	-	-	Respirable	
Terphenyls (o-, m-, p-isomers)	26140-60-3	-	-	-	5	С	ACGIH
		-	-	0.5	5	С	NIOSH
		1	9	-	-	С	OSHA

Source:

OSHA: Occupational Safety and Health Standards - Permissible Exposure Limit (PEL), 1910.1000 TABLE Z-1 NIOSH: National Institute for Occupational Safety and Health (NIOSH) Recommended exposure limits (RELs) ACGIH: American Conference of Governmental Industrial Hygienists - Threshold limit values (TLV) 2019

Notes

IPM: Inhalable particulate matter

C: Ceiling Limit Value

A4: Not Classifiable as a Human Carcinogen (containing no asbestos fibers)

Biological Exposure Indices Not established.

Appropriate engineering controls

Ensure adequate ventilation. Atmospheric levels should be controlled in compliance with the occupational exposure limit. A washing facility/water for eye

and skin cleaning purposes should be present.

Individual protection measures, such as personal

protective equipment (PPE)

General hygiene measures for the handling of chemicals are applicable. Avoid contact with skin, eyes or clothing. Do not breathe vapour. Wash hands before breaks and after work. Keep work clothes separately. Do not eat, drink or smoke at the work place.

Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled. The resistance of the protective clothing to chemicals should be ascertained with the respective supplier.

Eye/face protection



Wear protective eye glasses for protection against liquid splashes. Wear eye protection with side protection (EN166).

Skin protection



**Hand protection**: Wear impervious gloves (EN374). Gloves should be changed regularly to avoid permeation problems. Breakthrough time of the glove material: refer to the information provided by the gloves' producer.

**Body protection**: Wear impervious protective clothing, including boots, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

In case of inadequate ventilation wear respiratory protection. Open system(s): Wear suitable respiratory protective equipment. Select a filter suitable for organic gases and vapours. Recommended: EN143, Filter type A.

Respiratory protection



#### **SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

Information on basic physical and chemical properties Appearance

Black, Liquid

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Odor
Odor Threshold
Not available.
pH
Not established.
Melting Point/Freezing Point
Not available.
Initial boiling point and boiling range
Not available.
> 37.78 ℃

Flash Point 98.89 °C [Closed cup]
Evaporation rate (Butyl acetate = 1) Not established.
Flammability (solid, gas) Not applicable - Liquid

Upper/lower flammability or explosive limits

Not applicable
Vapour pressure

0.27 kPa (2.03 m)

Vapour pressure 0.27 kPa (2.03 mm Hg) @ 20C Vapour density Terphenyl, hydrogenated: 7.95 (Air = 1)

Relative density 1.65 g/cm<sup>3</sup>

Solubility(ies) Insoluble in cold water.

Partition coefficient: n-octanol/water

Auto-ignition temperature

Decomposition Temperature

Viscosity

Not available.

Not available.

Not available.

> 0.21 cm2/s @ 40℃

Other information

Explosive properties Not explosive.

Oxidising properties Not oxidising.

#### **SECTION 10: STABILITY AND REACTIVITY**

ReactivityStable under normal conditions.Chemical stabilityStable under normal conditions.Possibility of hazardous reactionsHazardous polymerisation will not only the conditions.

Possibility of hazardous reactionsHazardous polymerisation will not occur.Conditions to avoidKeep away from heat, sources of ignition and direct sunlight.

Incompatible materials Keep away from: Oxidizing agents and Acids.

Hazardous decomposition product(s) Decomposes in a fire giving off toxic fumes: Carbon monoxide, Carbon dioxide,

Nitrogen oxides, Sulphur oxides, metal oxides.

#### **SECTION 11: TOXICOLOGICAL INFORMATION**

## Information on toxicological effects (Substances in preparations / mixtures)

Acute toxicity - Ingestion Acute toxicity - Oral, Category 4; Harmful if swallowed.

Acute Toxicity Estimate Mixture Calculation: LD50 >300 - ≤2000 mg/kg bw/day.

Manganese dioxide Acute toxicity - Oral, Category 4; Harmful if swallowed.

Acute toxicity - Inhalation Based upon the available data, the classification criteria are not met.

Acute Toxicity Estimate Mixture Calculation: LC50 > 20.0 mg/l. Based upon the available data, the classification criteria are not met.

Acute toxicity - Skin Contact Based upon the available data, the classification criteria are not met.

Acute Toxicity Estimate Mixture Calculation: LD50 > 2000 mg/kg bw/day.

Skin corrosion/irritation

Based upon the available data, the classification criteria are not met.

Based upon the available data, the classification criteria are not met.

Based upon the available data, the classification criteria are not met.

Skin sensitization, Category 1; May cause an allergic skin reaction.

Bis (piperidinothiocarbonyl) tetrasulphide Skin sensitization, Category 1; May cause an allergic skin reaction. EU classification and labelling inventory, ≥30 Notifiers

Germ cell mutagenicity

Based upon the available data, the classification criteria are not met.

CarcinogenicityBased upon the available data, the classification criteria are not met.Reproductive toxicityBased upon the available data, the classification criteria are not met.STOT - single exposureBased upon the available data, the classification criteria are not met.

**STOT - repeated exposure** Specific target organ toxicity — repeated exposure, Category 1; Causes damage

to organs through prolonged or repeated exposure.

 ${\it Manganese\ dioxide\ Specific\ target\ organ\ toxicity\ -- repeated\ exposure,\ Category\ 1;\ Causes}$ 

damage to organs through prolonged or repeated exposure: brain, central

nervous system (Inhalation)

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Repeat dose studies have shown the potential to cause neurotoxicity. (Eriksson

et al, 1987)

Aspiration hazard Based upon the available data, the classification criteria are not met.

Information on likely routes of exposure

InhalationPossible – accidental exposureIngestionUnlikely – accidental exposureSkin ContactPossible – accidental exposureEye ContactUnlikely – accidental exposure

Early onset symptoms related to exposure Harmful if swallowed. May cause an allergic skin reaction.

Delayed health effects from exposure Causes damage to organs through prolonged or repeated exposure.

Other information

NTP Report on Carcinogens

All chemicals are not listed ARC Monographs

All chemicals are not listed All chemicals are not listed OSHA Designated Carcinogen

All chemicals are not listed All chemicals are not listed All chemicals are not listed

#### **SECTION 12: ECOLOGICAL INFORMATION**

Ecotoxicity Hazardous to the aquatic environment, Chronic, Category 1; Very toxic to aquatic

life. Estimated Mixture LC50: ≤1 mg/l (Fish)

Manganese dioxide Not classified

Terphenyl, hydrogenated Hazardous to the aquatic environment, Chronic, Category 2; Toxic to aquatic life

with long lasting effects.

Bis (piperidinothiocarbonyl) tetrasulphide Hazardous to the aquatic environment, Chronic, Category 2; Toxic to aquatic life

with long lasting effects.

Terphenyl Hazardous to the aquatic environment, Acute, Category 1; Very toxic to aquatic

life. M-factor: 1

Hazardous to the aquatic environment, Chronic, Category 1; Very toxic to

aquatic life with long lasting effects. M-factor: 10

Persistence and degradability

No data for the mixture as a whole.

Manganese dioxide Not applicable for inorganic substances.

Terphenyl, hydrogenated Inherently Biodegradable

Bis (piperidinothiocarbonyl) tetrasulphide No data available

Terphenyl Not readily biodegradable. In Water: persistent.

Bioaccumulative potential No data for the mixture as a whole.

Manganese dioxide Not applicable for inorganic substances.

Terphenyl, hydrogenated The substance has high potential for bioaccumulation. BCF: 5200

Bis (piperidinothiocarbonyl) tetrasulphide No data available

Terphenyl The substance has low potential for bioaccumulation. BCF: 25 - 129

Mobility in soil No data for the mixture as a whole. The product is predicted to have low mobility

in soil. Insoluble in cold water.

Manganese dioxide The substance has low mobility in soil. Kd: ~1355 (OECD 106)

Terphenyl, hydrogenated The substance has low mobility in soil. LogKoc: 4.2 – 6.1

Bis (piperidinothiocarbonyl) tetrasulphide No data available

Terphenyl The substance has low mobility in soil. LogKoc: 4.2 - 5.8

Other adverse effects None known.

## **SECTION 13: DISPOSAL CONSIDERATIONS**

Waste treatment methods

Dispose of this material and its container as hazardous waste. Send after pretreatment to a appropriate hazardous waste incinerator facility according to legislation. Dispose of contents in accordance with local, state or national legislation.

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LIQUID, N.O.S (Terphenyl)

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**Additional Information** 

Containers of this material may be hazardous when empty since they retain product residue. Ensure that all packaging is disposed of safely.

#### **SECTION 14: TRANSPORT INFORMATION**

 ADR/RID
 IMDG
 ICAO/IATA

 UN number
 UN 3082
 UN 3082
 UN 3082

UN proper shipping name ENVIRONMENTALLY ENVIRONMENTALLY ENVIRONMENTALLY ENVIRONMENTALLY HAZARDOUS SUBSTANCE, HAZARDOUS SUBSTANCE,

LIQUID, N.O.S (Terphenyl) LIQUID, N.O.S (Terphenyl) sport hazard class(es) 9 9

 Transport hazard class(es)
 9
 9
 9

 Packing group

Environmental hazards Environmentally hazardous Classified as a Marine Environmentally hazardous substance Pollutant. Environmentally hazardous substance

Transport in bulk according to Annex Not applicable. If of MARPOL 73/78 and the IBC Code

Special precautions for user See Section: 2

Additional Information See Section: 2

#### SECTION 15: REGULATORY INFORMATION

# Safety, health and environmental regulations/legislation specific for the substance or mixture US Federal Regulations

TSCA Chemical Data Reporting (CDR) Rule Terphenyl - Subject to 25,000 lb reporting threshold

Manganese dioxide - Subject to 25,000 lb reporting threshold
Terphenyl, hydrogenated - Subject to 25,000 lb reporting threshold
Bis (piperidinothiocarbonyl) tetrasulphide - Subject to 25,000 lb reporting

threshold

EPCRA/SARA Section 302 Extremely Hazardous All chemicals are not listed

Substances

EPCRA Section 313 Toxics Release Inventory (TRI)

Manganese dioxide - Manganese compound - De Minimis limit: 1%

Program

NIOSH Occupational Carcinogen List

All chemicals are not listed

All chemicals are not listed

OSHA List of highly hazardous chemicals, toxics and All chemicals are not listed

reactives

NTP Report on Carcinogens (RoC) List

Poison Prevention Packaging Act

All chemicals are not listed

No Components Listed

**US State Regulations** 

California State, Proposition 65 List All chemicals are not listed

California State, Safer Consumer Products Regulations Terphenyl, hydrogenated - Candidate Chemicals List

Maine State, Toxic Chemicals in Children's Products Act Terphenyl – COC list New Jersey State Worker and Community RTK Act Terphenyl

Terphenyl, hydrogenated

Manganese dioxide - Manganese compound

Pennsylvania State, Worker and Community RTK Act Terphenyl

Terphenyl, hydrogenated

Manganese dioxide - Manganese compound

ite, Hazardous Substances RTK Act

All chemicals are not listed

Rhode Island State, Hazardous Substances RTK Act

Non-Regional

IARC Monographs, List of Classifications All chemicals are not listed

#### **SECTION 16: OTHER INFORMATION**

The following sections contain revisions or new statements: Updated substance / mixture classification. Updated version and date. Please review SDS with care. See below -

Sections indicated with the following have been revised:

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References: Existing Safety Data Sheet (SDS), EU Harmonised Classification(s) for Manganese dioxide (CAS No. 1313-13-9). EU Existing ECHA registration(s) for Manganese dioxide (CAS No. 1313-13-9), Terphenyl, hydrogenated (CAS No. 61788-32-7), Terphenyl (CAS No. 26140-60-3). The classification and labelling inventory for Bis (piperidinothiocarbonyl) tetrasulphide (CAS No. 120-54-7).

#### Literature References:

1. Eriksson H, Magiste K, Platin L-O, Fonnum F, Hedstrom K-G, Theodorsson-Norheim E, Kristensson K, Stalberg E & Heilbronn E. (1987). Effects of manganese oxide on monkeys as revealed by a combined neurochemical, histological and neurophysiological evaluation. Arch. Toxicol., 61: 46-52.

Classification of the substance or mixture in accordance with paragraph (d) of 29 CFR 1910.1200	Classification Procedure		
Acute toxicity - Oral, Category 4	Acute Toxicity Estimate Mixture Calculation		
Skin sensitization, Category 1	Threshold Calculation		
Specific target organ toxicity — repeated exposure, Category 1	Threshold Calculation		
Hazardous to the aquatic environment, Chronic, Category 1	Summation Calculation		

#### **LEGEND**

ACGIH: American Conference of Governmental Industrial Hygienists

BCF: Bioconcentration factor

IARC: International Agency for Research on Cancer

LTEL: Long Term Exposure Limit M-factor: multiplying factor

NIOSH: National Institute of Occupational Safety and Health

NTP: National Toxicology Program

OECD: Organisation for Economic Cooperation and Development

OSHA: The Occupational Safety & Health Administration

PEL: Permissible exposure limit
REL: Recommended exposure limit
STEL: Short Term Exposure Limit
TLV: Threshold Limit value

TSCA: Toxic Substance Control Act

Training advice: Consideration should be given to the work procedures involved and the potential extent of exposure as they may determine whether a higher level of protection is required.

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Document No.: 63999 Revision: 15-Jul-2014