



SAFETY DATA SHEET

01597-0002 Cadmium

HAR1602

JUNE 1, 2015

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MICHAEL HARDING ARTIST OIL COLORS
COLORS CONTAINING CADMIUM PIGMENTS

1. Identification of the Preparation and of The Company

| | |
|---------------------------|---|
| Product Name and/or code: | MICHAEL HARDING ARTIST OIL COLORS -COLORS CONTAINING CADMIUM PIGMENTS |
| Effective Date: | 1-Jun-15 |
| Manufacturer: | Michael Harding Art Materials, Ltd. 36 Springdale Industrial Estate Cwmbran, Gwent NP44 -5BD, Wales |
| Information Contact: | North America: 978-549-4029; UK/Europe: 44 (0) 1633 - 484-700 |
| Emergency Contact: | Contact your local Poison Control Center |
| Product Use: | ART MATERIAL - Consumer Product |

2. Hazards Identification

Information pertaining to particular dangers for man and environment. This product has been classified as dangerous according to OSHA Hazard Communication Standard (29 CFR 1910.1200)

Emergency Overview

WARNING! HARMFUL IF SWALLOWED. Cancer Hazard. Contains insoluble cadmium compounds which can cause cancer by ingestion and inhalation of excessive fumes or dust. Effects of ingestion are cumulative due to slow elimination of absorbed cadmium. May cause harm to kidneys, testes, and developing fetus. Prolonged or repeated skin contact may cause irritation and dermatitis.

Label Elements

Pictograms

Conforms to ASTM D-4236



For Cadmium compounds GHS07, GHS08, GHS09

Signal Word

WARNING!

Hazard Statement

Contains insoluble cadmium compounds which can cause cancer by ingestion and inhalation of excessive fumes or dust. Effects of ingestion are cumulative due to slow elimination of absorbed cadmium. May cause harm to kidneys, testes, and developing fetus. Prolonged or repeated skin contact may cause irritation and dermatitis.

Precaution Statement

Do not eat. Wash hands and face before eating or smoking. Ensure fresh air entry during application and drying. Avoid dust or prolonged or repeated skin contact.

Children's Statement

KEEP OUT OF REACH OF CHILDREN.

Classification of the Product:

NFPA

Health 3 - Warning. Corrosive or toxic. Avoid skin contact or inhalation.

Flammability 1- Combustible if heated.

Reactivity 0 - Stable

HMIS

Health 3 - Serious

Flammability 1 - Slight Hazard



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Regulation (EC) No. 1272/2008

 Export and Import of Dangerous
 Chemicals Regulation (EC)No.
 649/2012

 Directive 67/548/EEC & Directive
 1999/45/EC

Physical Hazard 0 - Minimal Hazard

 Cadmium compounds are classified in Annex VI of the Classification Labeling and
 Packaging

The ingredients of this product are listed in the Annex I of the regulation.

 Cadmium compounds, major components of these products are classified as
 following:

Cadmium Sulfide (CAS 1306-23-6): Acute Tox. 4 H302, Muta. 2 H341, Carc. 1B
 H350, STOT RE 1 H372, Aquatic Chronic 4

Cadmium Sulfoselenide Orange (CAS 12656-57-4): Not classified.

Cadmium Sulfoselenide Red (CAS 58339-34-7): Acute Tox. 4 H302, H312, H332

As per the manufacture of the cadmium pigments, James M. Brown: Cadmium pigments are less hazardous than other cadmium compounds as they are less soluble: this greatly reduces the risk of absorption of cadmium into the body and also greatly reduces their environmental hazard. These products contain no PBT or vPvB substance or anything listed on the "candidate list". They contain no persistent organic pollutants or anything capable of causing damage to the ozone layer. These products do not offer any dust explosion hazard.

3. Composition/Information on Ingredients:
Substances:

The various products listed under Section 16 contain non- hazardous natural drying oils, organic and inorganic pigments, additives.

| | |
|--|---|
| Hazardous Ingredients - Cadmium compounds: | Cadmium Sulfide (CAS 1306-23-6)-----60.0 - 90.0% |
| | Cadmium Sulfoselenide Orange (CAS 12656-57-4)----60.0 - 90.0% |
| | Cadmium Sulfoselenide Red (CAS 58339-34-7): -----60.0 - 90.0% |

Risk and Safety Phrases:

Ingredients are marked according to CLP Regulation (CLP-Regulation (EC) No 1272/2008) and according to DSD (Dangerous Substances Directive (67/548/EEC)) and DPD (Dangerous Preparations Directive (1999/45/EC)). These ingredients are regarded as trade secrets.

4. First Aid Measures

| | |
|--------------|--|
| Inhalation | Supply fresh air. If required, provide artificial respiration. Consult with a doctor, physician or qualified health professional if symptoms persist. In case of unconsciousness place patient securely in side position for transportation (if needed). |
| Skin Contact | Remove any contaminated clothing. Wash affected area immediately with water and soap and rinse thoroughly. |

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| | |
|---|---|
| Eye Contact | Flush area with water, lifting the upper and lower lids until no evidence of product remains. Get medical attention. Do not wear contact lenses while handling. |
| Ingestion | Drink water or milk to dilute. Do not induce vomiting. Contact a physician. |
| Most important symptoms and effects, both acute and delayed | Typical clinical manifestations of lead poisoning include weakness, irritability, asthenia, nausea, abdominal pain with constipation, and anemia. |

5. Firefighting Measures

| | |
|---|--|
| Extinguishing Media | Water, foam, carbon dioxide or dry chemical equipment. |
| Fire/Explosion Hazards | This product is not known to present any fire hazard. |
| Flashpoint/Flammability | This product is not known to be flammable but as a precaution keep product in cool place. It can be combustible if heated. |
| Special hazards arising from the substance or mixture | May give off toxic fumes in case of fire, including lead fumes. |

6. Accidental Release Measures

| | |
|---|---|
| Environmental precautions | No product should be released to the environment without due care. |
| Methods and Materials for Containment and Cleaning up | Contain spill. Recover as much as possible with sand, soil or similar product. Place into closed container and store in a safe location to await disposal. Wash the spill area with soap and water. |

7. Handling and Storage

| | |
|---------------|--|
| Safe Handling | Do not eat, drink or smoke when using these materials. Wash hands after use. Remove contaminated clothing and protective equipment before entering eating areas. Minimize dust in the workplace atmosphere caused by rough handling. Do not mix or use with acids or powerful oxidizing agents. Avoid spills and ensure that these products do not enter drains or watercourses during use or as a result of any spillage. |
| Storage | Store away from food, drink and animal feeding stuffs. Store under normal warehouse conditions away from sources of ignition, concentrated acids and powerful oxidizing agents. Store only in original containers and keep sealed when not in use. |

8. Exposure Controls/Personal Protection

| | |
|-------------------------------|--|
| Personal Protective Equipment | Wear safety goggles and protective gloves to avoid dust contact. |
|-------------------------------|--|



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Exposure Limits**Components with workplace control parameters**

| Component | CAS-No. | Value | Control parameters | Basis |
|------------------|-----------|---|--------------------|---|
| Cadmium sulphide | 1306-23-6 | TWA | 0.01 mg/m3 | USA. ACGIH Threshold Limit Values (TLV) |
| | Remarks | Kidney damage Substances for which there is a Biological Exposure Index or Indices (see BEI® section) Suspected human carcinogen | | |
| | | TWA | 0.010000 mg/m3 | USA. ACGIH Threshold Limit Values (TLV) |
| | | Kidney damage Substances for which there is a Biological Exposure Index or Indices (see BEI® section) Suspected human carcinogen varies | | |
| | | TWA | 0.002 mg/m3 | USA. ACGIH Threshold Limit Values (TLV) |
| | | Kidney damage Substances for which there is a Biological Exposure Index or Indices (see BEI® section) Suspected human carcinogen varies | | |
| | | TWA | 0.002000 mg/m3 | USA. ACGIH Threshold Limit Values (TLV) |
| | | Kidney damage Substances for which there is a Biological Exposure Index or Indices (see BEI® section) Suspected human carcinogen varies | | |
| | | Potential Occupational Carcinogen See Appendix A | | |
| | | Potential Occupational Carcinogen See Appendix A | | |
| | | PEL | 0.005000 mg/m3 | OSHA Specifically Regulated Chemicals/Carcinogens |
| | | 1910.1027 This standard applies to all occupational exposures to cadmium and cadmium compounds, in all forms, and in all industries covered by the Occupational Safety and Health Act, except the construction-related industries, which are covered under 29 CFR 1926.63. OSHA specifically regulated carcinogen | | |
| | | PEL | 0.005000 mg/m3 | OSHA Specifically Regulated Chemicals/Carcinogens |
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Biological occupational limits

Biological occupational exposure limits

| Component | CAS-No. | Parameters | Value | Biological specimen | Basis |
|------------------|-----------|--------------|------------------|---------------------|---|
| Cadmium sulphide | 1306-23-6 | cadmium | 5 µg/l | In blood | ACGIH - Biological Exposure Indices (BEI) |
| | Remarks | Not critical | | | |
| | | cadmium | 5µg/g creatinine | Urine | ACGIH - Biological Exposure Indices (BEI) |
| | | Not critical | | | |

Respiratory and Ventilation

Wear approved NIOSH/MSHA respirator if exposure to mist or vapor exceed applicable PEL/TLV limits. Use in accordance with manufacturer's use limitations and OSHA STANDARD 1910-34. Local ventilation may be used to prevent routine inhalation.

Skin Protection

Handle with non-porous nitrile gloves. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Full Contact Material: Nitrile rubber

Data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an Industrial Hygienist familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Eye Protection

Safety glasses conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).



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As per the manufacture of the cadmium pigments, James M. Brown: Use under local exhaust ventilation whenever possible to minimize dust levels. An air face velocity of 0.5 - 1 m sec⁻¹ is suggested. If LEV is not available, or is thought to be insufficient, then use of a dust mask complying with EN 149 type P1 is suggested. If mixtures containing these products are being sprayed, use of efficient LEV is strongly advised, together with a P1 dust mask: if LEV is not available, use of a P2 or P3 mask is strongly advised. Whenever spraying is being carried out, care needs to be taken to ensure that other persons in the area are also suitably protected.

9. Physical and Chemical Properties

| | |
|---------------------|-----------------------------------|
| Appearance | Viscous colored oil paints |
| Physical State | Solid - Paste |
| Color | See product list in Section 16 |
| Odor | Slightly aromatic. |
| Boiling Point | Greater than 100°C/ 212°F |
| Freezing Point | Not applicable |
| State (pH) | 8.5 - 9.2 |
| Specific Gravity | 1.0 - 2.0 |
| Viscosity | Not determined (Viscous material) |
| Flashpoint | Greater than 230°C/ 446°F |
| Vapor Pressure | Not applicable |
| Vapor Density | Not applicable |
| Solubility in water | Not Miscible |

10. Stability and Reactivity

| | |
|----------------------------------|---|
| Reactivity: | Not expected to be reactive. |
| Chemical Stability | Stable |
| Conditions to Avoid | Keep away from heat, sparks and flame. |
| Incompatible materials | Combustible material (eg. Cotton) |
| Hazardous Decomposition Products | May give off toxic fumes in case of fire, including lead fumes. |

11. Toxicological Information

| | |
|----------------|---|
| Health Effects | Studies have not been performed on this particular mixture. The information below is based on data on the individual ingredients. |
| Oral | Low Acute Toxicity, but High Chronic hazard, not otherwise quantifiable. |
| Inhalation | Overexposure may cause symptoms of chronic lung disease and lead poisoning. |
| Dermal | This product is not a primary skin irritant. |
| Eye Effects | May cause physical irritation and inflammation. |



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As per the manufacture of the cadmium pigments, James M. Brown: These products i.e. pigments are of a lower toxicity than other cadmium compounds due to their extreme insolubility. A range of values have been reported for oral LD₅₀s for several species exposed to these products: the values are normally greater than 5000 mg/kg. Gross overexposure over many years may lead to kidney damage, but this should never happen given modern working conditions. On the basis of the available data, it is not judged that these products offer a skin irritation/ skin sensitization hazard.

12. Ecological Information

| | |
|-------------------------------|---------------------------|
| Aquatic toxicity | No information available. |
| Persistence and degradability | No information available. |
| Mobility in soil | No information available. |

13. Disposal Considerations

Dispose of all waste material in accordance with all applicable federal, state and local regulations for the disposal of hazardous waste. Must be disposed as hazardous chemical waste. Do not allow product to reach sewage system.

Uncontaminated packaging may be safely reused. Do not burn or reuse contaminated packaging- this must be done following the requirements of the Environmental Protection Act 1990 and observing the "Duty of Care". Outside the UK, all relevant national and local legislation must be complied with.

14. Transport Information

The following transportation categories do not apply to this mixture sold as a consumer use product (non-bulk).

DOT Non-Bulk

Shipping Name

Environmetally hazardous substances, solid, n.o.s. (Cadmium sulfide)

Technical Shipping Name

Environmetally hazardous substances, solid, n.o.s. (Cadmium sulfide)

Hazard Class

9

UN Number

3077

Packing Group

III

IMDG

Shipping Name

Environmetally hazardous substances, solid, n.o.s. (Cadmium sulfide)

Technical Shipping Name

Environmetally hazardous substances, solid, n.o.s. (Cadmium sulfide)

Hazard Class

9

UN Number

3077

Packing Group

III

EmS Number

Not applicable

Marine Pollutant

EHS/Marine Pollutant Mark required

ICAO/IATA

Shipping Name

Environmetally hazardous substances, solid, n.o.s. (Cadmium sulfide)



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Technical Shipping Name Environmetally hazardous substances, solid, n.o.s. (Cadmium sulfide)

Hazard Class 9
UN Number 3077
Packing Group III

Michael Harding Art Materials Ltd. are IATA certified through the UK CAA.

This information is not intended to convey all specific regulatory or operational requirements/information relating to

15. Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture.

SARA Not applicable

Section 355 (extremely hazardous substances) Not applicable

Section 313 (Specific toxic chemical listing) Not applicable

TSCA (Toxic Substance Control Act) All ingredients are listed.

The Safe Drinking Water and Toxic Enforcement Act of 1986 - California Proposition 65 As of June 1, 2015 this product contains cadmium compounds known to the State of California to cause cancer, at levels which would require a warning under the statute.

Chemicals known to cause cancer Cadmium Compounds

Chemicals known to cause reproductive toxicity for females None of the ingredients are listed as of 6/1/15.

Chemicals known to cause reproductive toxicity for males None of the ingredients are listed as of 6/1/15.

Chemicals known to cause developmental toxicity None of the ingredients are listed as of 6/1/15.

Carcinogenicity categories
EPA (Environmental Protection Agency) Possible human carcinogen

TLV (Threshold Limit Value established by ACGIH) Possible human carcinogen

MAK (German Maximum Workplace Concentration) No information available

NOISH-Ca (National Institute for Occupational Safety & Health) Possible human carcinogen

OSHA-Ca (Occupational Safety & Health Administration) Possible human carcinogen



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16. Other Information

| Product Number and Color Name | Pigment Identification |
|-------------------------------|-------------------------------|
| 401 Cadmium Yellow Lemon | PY 35 Cadmium Sulphide |
| 402 Cadmium Yellow | PY 35 Cadmium Sulphide |
| 403 Cadmium Golden Yellow | PY 35 Cadmium Sulphide |
| 404 Cadmium Yellow Deep | PY 35 Cadmium Sulphide |
| 502 Cadmium Orange | PO 20 Cadmium Sulphoselenide |
| 503 Cadmium Red Light | PR 108 Cadmium Sulphoselenide |
| 504 Cadmium Red | PR 108 Cadmium Sulphoselenide |
| 505 Cadmium Red Deep | PR 108 Cadmium Sulphoselenide |

H Statements

- H302 Harmful if swallowed.
- H332 Harmful if inhaled.
- H312 Harmful in contact with skin.
- H341 Suspected of causing genetic defects.
- H350 May cause cancer .

Supersedes MSDS

11-Oct-13

Reason for Issue:

GHS Format

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