

O

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 600.00

Revision Date: March 25, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

o-Phosphoric Acid

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **DANGER**

Pictograms



SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Acute toxicity, oral (Category 4). Harmful if swallowed (H302). Do not eat, drink or smoke when using this product (P270).

Hazard class: Skin corrosion or irritation (Category 1). Causes severe skin burns and eye damage (H314).

Hazard class: Acute toxicity, inhalation (Category 1). Fatal if inhaled (H330).

Industrial exposure to phosphoric acid vapors and mists is listed as a known human carcinogen by IARC (IARC-1).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

| Component Name | CAS Number | Formula | Formula Weight | Concentration |
|-------------------------------|------------|--------------------------------|----------------|---------------|
| <i>o</i> -Phosphoric acid | 7664-38-2 | H ₃ PO ₄ | 98.00 | |
| Synonym: Orthophosphoric acid | | | | |

SECTION 4 — FIRST AID MEASURES

Immediately call a POISON CENTER or physician (P310).

If inhaled: Remove victim to fresh air in a position comfortable for breathing (P304+P340).

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing (P305+P351+P338). **If on skin:** Immediately remove all contaminated clothing. Rinse skin with water (P303+P361+P353). Wash contaminated clothing before reuse (P363).

If swallowed: Rinse mouth. Do NOT induce vomiting (P301+P330+P331).

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable liquid.

When heated to decomposition, may emit toxic fumes.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA CODE

H-3

F-0

R-0

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Remove all ignition sources and ventilate area. Contain spill with sand or other inert absorbent material, neutralize with sodium bicarbonate or calcium hydroxide and deposit in sealed bag or container. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Inorganic #9. Store with acids, except nitric acid.
Store in a dedicated acid cabinet and away from any source of water; if an acid cabinet is not available, store in Flinn Saf-Cube™.

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection (P280). Wash hands thoroughly after handling (P264).
Exposure guidelines: PEL/TLV 1 mg/m³ (OSHA/ACGIH)

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Colorless viscous liquid. Odorless.
Soluble: Water and alcohol

Boiling point: ~135 °C
pH: <1 (1% solution)
Specific gravity: 1.58
Vapor pressure: 2.2 mmHg

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with strong oxidizers, reducers, bases, and metals. Forms a detonable mixture with nitromethane.
Shelf life: Good, if stored properly.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Harmful liquid, corrosive
Chronic effects: respiratory tract irritation
Target organs: N.A.

ORL-RAT LD₅₀: 1530 mg/kg
IHL-RAT LC₅₀: N.A.
SKN-RBT LD₅₀: 2740 mg/kg

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Harmful to aquatic life at low concentrations. Toxicity is primarily associated with pH.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.
Flinn Suggested Disposal Method #24b is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Phosphoric Acid. Hazard class: 8, Corrosive. UN number: UN1805.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (231-633-2), RCRA code D002.

SECTION 16 — OTHER INFORMATION

This Safety Data Sheet (SDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific, Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. The data should not be confused with local, state, federal or insurance mandates, regulations, or requirements and CONSTITUTE NO WARRANTY. Any use of this data and information must be determined by the science instructor to be in accordance with applicable local, state or federal laws and regulations. The conditions or methods of handling, storage, use and disposal of the product(s) described are beyond the control of Flinn Scientific, Inc. and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT(S).

Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: March 25, 2014

SECTION I - MATERIAL SAFETY DATA SHEET

PLASTI-KOTE CO., INC.

1000 LAKE ROAD
 MEDINA, OHIO 44028
 1-330-725-4511
 1-800-255-3924 24 Hour Emergency Only

DATE PREPARED: 06/14/01

PRODUCT CLASS: AIRBORNE SPRAY PAINT

SHIPPING NAME: CONSUMER COMMODITY

ORM-D INTL. UN NO.: 1850

NE = NONE ESTABLISHED

NA = NONE AVAILABLE

HAZARD RATING

4 = SEVERE
 3 = SERIOUS
 2 = MODERATE
 1 = SLIGHT
 0 = MINIMAL

HMIS

HEALTH 1
 FLAMMABILITY 4
 REACTIVITY 0
 PERSONAL PROTECTION E

NFPA

HEALTH 2
 FLAMMABILITY 4
 REACTIVITY 0
 OTHER -

SECTION II - HAZARDOUS INGREDIENTS

| INGREDIENT | CAS NUMBER | ACGIH TWA PPM | OSHA PEL PPM | OTHER TLV PPM | VAPOR PRESSURE mmHg at 20 C | PRODUCT# | PRODUCT# | PRODUCT# | PRODUCT# | PRODUCT# |
|---------------------------|------------|---------------|--------------|---------------|-----------------------------|----------------------|----------|----------|---------------------|----------|
| | | | | | | 101-S, 101-SF, 102-S | METALLIC | CHROME | DECORATOR | FLO. |
| | | | | | | 102-SF, 103-S, 104-S | 109-S | 150-S | 144-S, 145-S, 146-S | 140-S |
| | | | | | | 105-S, 106-S, 107-S | 110-S | | 147-S, 148-S, 149-S | 141-S |
| | | | | | | 108-S, 111-S, 112-S | 136-S | | 151-S, 152-S, 153-S | 142-S |
| | | | | | | 113-S, 115-S, 116-S | 139-S | | 154-S, 155-S, 156-S | |
| | | | | | | 117-S, 119-S, 120-S | 143-S | | 157-S, 158-S, 159-S | |
| | | | | | | 124-S, 134-S, 135-S | | | 160-S, 161-S | |
| | | | | | | | % (w) | % (w) | % (w) | % (w) |
| ACETONE | 67-64-1 | 700 | 1000 | - | 100 | 20-25 | 20-25 | 15-20 | 20-25 | |
| ALIPHATIC HYDROCARBON | 64742-89-8 | NE | NE | 300 | 38 | 20-25 | 30-35 | 5-10 | 20-25 | 35-40 |
| V.M.S.P. Naphtha | 66410-97-9 | NE | NE | - | - | 15-20 | | | 15-20 | |
| * N-BUTYL ALCOHOL | 71-36-3 | 50 | 100 | - | 4.2 | | 0-5 | | | |
| * CYCLOHEXANE | 110-82-7 | 300 | 300 | - | 78 | | | 30-35 | | |
| ISOPROPYL ALCOHOL | 67-63-0 | 400 | 400 | - | 33 | | 5-10 | | | |
| MINERAL SPIRITS | 64742-48-9 | NE | NE | 100 | 2.0 | 5-10 | 0-5 | 0-5 | 5-10 | 5-10 |
| * TOLUENE | 108-88-3 | 100 | 100 | - | 22 | | | 5-10 | | |
| * XYLENE | 1330-20-7 | 100 | 100 | - | 5.1 | 0-5 | | | 0-5 | 0-5 |
| CARBON BLACK | 1333-86-4 | - | (1)* | (1)* | - | 0-1 | | | 0-1 | |
| TITANIUM DIOXIDE | 13463-65-4 | - | (2)* | (2)* | - | 0-10 | | | 0-10 | |
| PROPANE-ISOBUTANE MIXTURE | 68478-96-8 | NE | 1000 | - | - | 30 | 30 | 25 | 20 | 20 |

(1) 3.5 MGCUM DUST - (2) 10 MGCUM DUST

* THIS CHEMICAL IS SUBJECT TO THE REPORTING REQUIREMENTS OF SECTION 313 OF SARA TITLE III.

SECTION III - PHYSICAL DATA

| | | | |
|--|------------------------|--------------------|---|
| BOILING RANGE: | 133° - 331° F | VAPOR DENSITY: | <input checked="" type="checkbox"/> Heavier <input type="checkbox"/> Lighter than air |
| MELTING POINT: | Estimated min. 1000° F | WEIGHT PER GALLON: | 6.5 - 7.2 (PAINT) |
| VAPOR PRESSURE: | Unknown for products | SPECIFIC GRAVITY: | (H ₂ O = 1): < 1 |
| SOLUBILITY IN WATER: | Slight to moderate | EVAPORATION RATE: | <input type="checkbox"/> Faster <input checked="" type="checkbox"/> Slower than other |
| APPEARANCE AND ODOR: | Typical solvent paint | | (Butyl Acetate = 1) Section 1 products > 1 |
| PERCENT VOLATILE BY VOLUME: | 90-90 | Propellants > 1 | (Propellant tester) |
| See Section II for volatile, hazardous components. | | VOG: g/l | 690 735 730 695 690 |

Continue on page 2

| STANDARD | | SECTION IV - FIRE AND EXPLOSION HAZARD DATA | |
|--|--|--|---|
| FLAMMABILITY CLASSIFICATION: (EXTREMELY FLAMMABLE) | OSHA: 1A UNIFORM FIRE CODE: LEVEL 3 AEROSOL | FLASH POINT: 0° F (-18° C) TCC (Propellant = -100° F) | |
| EXTINGUISHING MEDIA: | ALCOHOL, FOAM, CO2, DRY CHEMICAL | LEL 1.0 | |
| UNUSUAL FIRE AND EXPLOSION HAZARDS: | Closed containers may explode and/or autoignite when exposed to extreme heat, vapors are heavier than air and may travel along the ground or may be moved by ventilation and ignited by pilot lights, other flames, sparks, heaters, smoking, electric motors or other locations distant from material handling point. | | |
| SPECIAL FIRE FIGHTING PROCEDURES: | Water spray may be ineffective. Water may be used to cool closed containers to prevent pressure build and possible autoignition or explosion when exposed to extreme heat. If water is used, fog nozzles are preferable use self-contained breathing apparatus with full face piece operated in pressure demand or other positive pressure mode. | | |
| SECTION V - HEALTH HAZARD DATA | | | |
| ROUTE(S) OF ENTRY: | <input checked="" type="checkbox"/> INHALATION | <input checked="" type="checkbox"/> SKIN | <input type="checkbox"/> INGESTION <input checked="" type="checkbox"/> EYES |
| CARCINOGENICITY: | <input type="checkbox"/> NTP | <input checked="" type="checkbox"/> IARC | <input type="checkbox"/> OSHA |
| Contains ethylbenzene as a component of xylene and/or mineral spirits. Ethylbenzene is classified by IARC as possibly carcinogenic to humans based on animal data; however there is inadequate evidence for cancer in exposed humans. | | | |
| SYMPTOMS OF OVEREXPOSURE: | | | |
| ACUTE: | BREATHING: | Excessive inhalation of vapors can cause nasal and respiratory irritation, dizziness, weakness, fatigue, nausea, headache, possible unconsciousness and even asphyxiation. | |
| | EYE CONTACT: | Can cause severe irritation, redness, tearing, blurred vision. | |
| | SWALLOWING: | Can cause gastrointestinal irritation, nausea, vomiting, diarrhea. | |
| | SKIN CONTACT: | Can cause irritation. Prolonged contact can cause dryness and cracking of skin. | |
| CHRONIC: | None known for product(s) in Section 1. | | |
| Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage, severe overexposure in laboratory animals has also caused liver abnormalities and damage to kidneys, lungs, and spleen, heart and adrenals. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal. | | | |
| MEDICAL CONDITIONS: | Generally Aggravated By Exposure - Can cause respiratory and/or skin reaction. | | |
| FIRST AID-EMERGENCY PROCEDURES: | | | |
| 1. IF INHALED - Remove individual to fresh air. If breathing is difficult, administer oxygen. If breathing is stopped, give artificial respiration and seek medical help. | | | |
| 2. IF IN EYES - Flush with water for 15 minutes while holding eyelids open. Get prompt medical attention. | | | |
| 3. IF SWALLOWED - Do NOT induce vomiting (aspiration of material into lungs can cause pneumonia, which can be fatal). Keep person warm, quiet and get medical attention / Poison Control Center. | | | |
| 4. IF ON SKIN - Wash with soap and water or various hand cleansers, and wash clothing. | | | |
| SECTION VI - REACTIVITY DATA | | | |
| STABILITY: | <input type="checkbox"/> UNSTABLE <input checked="" type="checkbox"/> STABLE | HAZARDOUS POLYMERIZATION: | <input type="checkbox"/> MAY OCCUR <input checked="" type="checkbox"/> WILL NOT OCCUR |
| CONDITIONS TO AVOID: | Heat, sparks and open flame. | | |
| INCOMPATIBILITY (materials to avoid): | Avoid contact with strong oxidizing agents and heat. | | |
| HAZARDOUS DECOMPOSITION: | May form toxic materials, carbon dioxide / carbon monoxide, various hydrocarbons, nitrogen compounds, etc., when burned. | | |
| CONDITIONS TO AVOID: | Not applicable. | | |
| SECTION VII - SPILL OR LEAK PROCEDURES | | | |
| STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Eliminate all ignition sources, ventilate area, absorb liquid on paper, vermiculite, floor absorbent, or other absorbent material and transfer to a closed container. | | | |
| WASTE DISPOSAL METHOD: Material collected on absorbent material may be deposited in a pooled toxic substance landfill in accordance with local, state, and federal regulations. | | | |
| PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Do not puncture or incinerate. Do not store in areas above 120°F (40°C) or in direct sunlight, or near heat or open flames. | | | |
| STORAGE CATEGORY: Store large quantities in building protected for storage of flammable liquids. | | | |
| SECTION VIII - SPECIAL PROTECTION INFORMATION | | | |
| RESPIRATORY PROTECTION: For casual/occasional use - to avoid breathing vapors or spray mist, open windows and doors or use other means to ensure fresh air entry during application and drying. If you experience eye watering, headaches, or dizziness, increase fresh air, wear respiratory protection (NIOSH/MSHA approved), or leave the area. | | | |
| VENTILATION: For regular/continuous use - provide sufficient mechanical (general) and/or local exhaust ventilation to maintain exposure below TLV's in Section 2. | | | |
| PROTECTIVE GLOVES: Wear chemical resistant gloves, such as neoprene, if skin contact is to be avoided. | | | |
| EYE PROTECTION: Chemical splash goggles, in compliance with OSHA regulations, are advised. | | | |
| OTHER EQUIPMENT: Where special or unusual conditions exist, seek the expert assistance of an industrial hygienist. | | | |
| WORK/HYGIENE PRACTICES: Wash hands before eating or using washroom. As with all chemicals, minimize personal contact. | | | |
| The data on this sheet represent typical values. Since application variables are a major factor in product performance, this information should serve only as a general guide. Valpar assumes no obligation or liability for use of this information. UNLESS VALPAR AGREES OTHERWISE IN WRITING, VALPAR MAKES NO WARRANTIES, EXPRESS OR IMPLIED, AND DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR FREEDOM FROM PATENT INFRINGEMENT. VALPAR WILL NOT BE LIABLE FOR ANY SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES. Your only remedy for any defect in this product is the replacement of the defective product, or a refund of its purchase price, at our option. This MSDS contains additional information required by the state of Pennsylvania. 803 | | | |



SAFETY DATA SHEET

SECTION 1: IDENTIFICATION

PRODUCT NAME: ODOR SORB

USE : Odor neutralization

SUPPLIER'S NAME & ADDRESS :

WEST PENETONE INC.
11411 160 STREET
EDMONTON, AB T5M 3T7

EMERGENCY TELEPHONE NUMBERS : WEST PENETONE : (780) 454-3919
CANUTEC : (613) 996-6666

SECTION 2: HAZARDS IDENTIFICATION

Irritant to eyes and skin. May be harmful if swallowed.

SECTION 3: COMPOSITION AND INFORMATION ON INGREDIENTS

| | <u>%</u> | <u>CAS #:</u> | <u>ACGIH TLV (TWA):</u> | <u>LD50 OF MATERIAL</u> | <u>LC50 OF MATERIAL</u> |
|--|----------|-----------------|-------------------------|-------------------------|-------------------------|
| 1,2-Propylene Glycol | 1-5 | 57-55-6 | None | Rat-oral 20,000mg/kg | Not available |
| Poly(oxy-1,2-ethanediyl), .alpha.-phenyl-.omega.- hydroxy- | 1-5 | 9004-78-8 | Not available | Rat-oral 5600mg/kg | Not available |
| Tetrasodium iminodisuccinate | 1-5 | 144538-83- 0 | None | Rat-oral >2000mg/kg | Not available |

SECTION 4: FIRST AID MEASURES

EYE CONTACT: Flush with plenty of water for 15 minutes. Contact physician if irritation persists or develops.

SKIN CONTACT: Wash with soap and water. Consult physician if irritation develops or persists.

INHALATION: Not applicable

INGESTION: Do not induce vomiting. Drink plenty of water and contact physician immediately.

SECTION 5: FIRE FIGHTING MEASURES

MEANS OF EXTINCTION: Not applicable

HAZARDOUS COMBUSTION PRODUCTS: Decomposition products may include oxides of carbon.

SPECIAL PRECAUTIONS FOR FIREFIGHTERS: Not applicable

SECTION 6: ACCIDENTAL RELEASE MEASURES

SPILL CONTROL MEASURES:

For small spills, dilute with water and mop up or absorb with an inert dry materials and place in an appropriate waste disposal container. For large spills, do not allow product to enter drains. Contain and collect spillage with absorbent material and proceed as above.

SECTION 7: HANDLING AND STORAGE

STORAGE AND HANDLING PROCEDURES :

Keep container closed when not in use. Keep from freezing.

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

See Section 3

PERSONAL PROTECTION :

Splash proof goggles. Chemical-resistant gloves.

ENGINEERING CONTROLS :

No special measures required.

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

Colorless to light amber liquid

ODOR

Odorless

ODOR THRESHOLD :

Not applicable

pH :

10.5

FREEZING POINT :

Approx. 0°C

BOILING POINT :

Approx. 100°C

FLASH POINT :

None

EVAPORATION RATE, acetone = 1 :

Not available

FLAMMABILITY (SOLID, GAS):

Not applicable

VAPOR PRESSURE, KPa AT 20°C :

Not available

VAPOR DENSITY (Air = 1) :

Not available

SPECIFIC GRAVITY AT 20°C:

1.025

SOLUBILITY IN WATER :

Complete

COEFFICIENT OF WATER/OIL DISTRIBUTION :

Not available

AUTO IGNITION TEMPERATURE :

Not available

DECOMPOSITION TEMPERATURE:

Not available

VISCOSITY:

Not available

FLAMMABLE LIMITS :**UPPER:** Not available **LOWER :** Not available**SECTION 10: STABILITY AND REACTIVITY****CONDITIONS OF STABILITY :**

Product is stable

INCOMPATIBLE MATERIALS AND CONDITIONS TO AVOID :

Oxidizing materials, bases or acids

REACTIVITY :

Not reactive under normal conditions

HAZARDOUS DECOMPOSITION PRODUCTS :

Oxides of carbon

POSSIBILITY OF HAZARDOUS REACTIONS:

None

SECTION 11: TOXICOLOGICAL INFORMATION**ROUTE OF ENTRY:**

Skin and eye contact (acute)

Ingestion

ACUTE HEALTH EFFECTS:

Irritant to skin and eyes. May be harmful if swallowed.

EFFECTS OF CHRONIC EXPOSURE:

None known

EXPOSURE LIMITS AND TOXICITY:

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICITY: No known significant effects or critical hazards.

PERSISTENCE AND DEGRADABILITY: COD – 293000 mg/L

BIOACCUMULATIVE POTENTIAL: Not available

MOBILITY IN SOIL: Not available

OTHER ADVERSE EFFECTS: No known significant effects or critical hazards.

SECTION 13: DISPOSAL CONSIDERATIONS**WASTE DISPOSAL :**

Consult local and / or provincial authorities

SECTION 14: TRANSPORT INFORMATION

T.D.G. classification: Not regulated

SECTION 15: REGULATORY INFORMATION

WHMIS classification: D2B

DSL compliant

SECTION 16: OTHER INFORMATION

PREPARED BY : GREG CEBULIAK
TECH. SERVICES REPRESENTATIVE
PHONE NO : (780) 454-3919

DATE : September 22, 2014
VERSION: 1
SUPERCEDES: Not applicable

THE INFORMATION PRESENTED HEREIN HAS BEEN COMPILED FROM SOURCES CONSIDERED TO BE DEPENDABLE AND ACCURATE TO THE BEST OF WEST PENETONE'S KNOWLEDGE. THE INFORMATION RELATES TO THIS SPECIFIC MATERIAL. IT MAY NOT BE VALID FOR THIS MATERIAL IF USED IN COMBINATION WITH ANY OTHER MATERIALS OR IN ANY PROCESS. IT IS THE USER'S RESPONSIBILITY TO SATISFY ONESELF AS TO THE SUITABILITY AND COMPLETENESS OF THIS INFORMATION FOR HIS OWN PARTICULAR USE.

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 566.00

Revision Date: February 6, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Orange IV

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word N/A

Pictograms

SECTION 2 — HAZARDS IDENTIFICATION

This chemical is considered nonhazardous according to GHS classifications for the Hazard Communication Standard. Treat all laboratory chemicals with caution.

Although this material is considered to be nonhazardous, unpredictable reactions among chemicals are always possible. Prudent laboratory practices should be observed.

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

| Component Name | CAS Number | Formula | Formula Weight | Concentration |
|---|------------|---|----------------|---------------|
| Orange IV, sodium salt | 554-73-4 | C ₁₈ H ₁₄ N ₃ NaO ₃ S | 375.38 | |
| Synonyms: Acid orange 5; Tropaeolin OO ; C.I. 13080 | | | | |

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell.

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing.

If on skin: Wash with plenty of water.

If swallowed: Rinse mouth. Call a POISON CENTER or physician if you feel unwell.

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable solid.

When heated to decomposition, may emit toxic fumes.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA Code
None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Wipe up the spill, place in a sealed bag or container, and dispose. Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Organic #9. Store with dyes, indicators and stains.
Keep container tightly closed. Store in a cool, dry place.

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection. Wash hands thoroughly after handling. Will stain skin, clothing, and surfaces.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Orange-yellow scales or powder. Odorless.
Soluble: Water and alcohol

Biological stain.
pH indicator: 1.4 red to 2.8 yellow.

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with strong oxidizers and high temperatures.
Shelf life: Indefinite, if stored properly.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: N.A.
Chronic effects: N.A.
Target organs: N.A.

ORL-RAT LD₅₀: N.A.
IHL-RAT LC₅₀: N.A.
SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.
Flinn Suggested Disposal Method #26a is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Not regulated. Hazard class: N/A. UN number: N/A.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

Not listed.

SECTION 16 — OTHER INFORMATION

This Safety Data Sheet (SDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific, Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. The data should not be confused with local, state, federal or insurance mandates, regulations, or requirements and CONSTITUTE NO WARRANTY. Any use of this data and information must be determined by the science instructor to be in accordance with applicable local, state or federal laws and regulations. The conditions or methods of handling, storage, use and disposal of the product(s) described are beyond the control of Flinn Scientific, Inc. and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT(S).

Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: February 6, 2014

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 571.00

Revision Date: March 21, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Oxalic Acid Dihydrate

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261
 CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **DANGER**

Pictograms



SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Acute toxicity, oral and dermal (Category 4). Harmful if swallowed or in contact with skin (H302 +H312). Do not eat, drink or smoke when using this product (P270).

Hazard class: Skin corrosion or irritation (Category 1). Causes severe skin burns and eye damage (H314). Do not breathe dust or fumes (P260).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

| Component Name | CAS Number | Formula | Formula Weight | Concentration |
|---------------------------|------------|---|----------------|---------------|
| Oxalic acid dihydrate | 6153-56-6 | H ₂ C ₂ O ₄ ·2H ₂ O | 126.07 | |
| Synonym: Ethandionic acid | | | | |

SECTION 4 — FIRST AID MEASURES

Immediately call a POISON CENTER or physician (P310). **If inhaled:** Remove victim to fresh air and keep at rest in a position comfortable for breathing (P304+P340). **If in eyes:** Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing (P305+P351+P338). **If on skin (or hair):** Immediately remove all contaminated clothing. Rinse skin with water (P303+P361+P353). Wash contaminated clothing before reuse (P363). **If swallowed:** Rinse mouth. Do NOT induce vomiting (P301+P330+P331).

SECTION 5 — FIRE FIGHTING MEASURES

Combustible solid.
 When heated to decomposition, may emit toxic fumes.
In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA CODE
 H-3
 F-1
 R-0

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Wear complete PPE. Do not allow solid to become airborne. Ventilate area. Wipe up, place in sealed bag or container and dispose. Wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Organic #1. Store with acids, anhydrides and peracids.
Store in a cool dry place.

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection (P280). Wash hands thoroughly after handling (P264).
Exposure guidelines: (as oxalic acid) PEL/TLV 1 mg/m³ (OSHA, ACGIH), STEL 2 mg/m³ (ACGIH)

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Colorless to white crystalline solid. Odorless.
Soluble: Water and many common organic solvents.

Melting point: 101.5 °C, sublimes @ 157 °C
Specific gravity: 1.653

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with bases, acid chlorides, alkali metals, corrodes steel.
Shelf life: Indefinite, if stored properly.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: **May be FATAL if ingested**, severe skin and eye burns.
Chronic effects: Damaging to many organs and organ systems
Target organs: Kidneys, nervous system, skin, eyes, brain, heart

ORL-RAT LD₅₀: 375 mg/kg (Merck)
IHL-RAT LC₅₀: N.A.
SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

LC₅₀ Bluegill: 4000 mg/l 24 hours

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.
Flinn Suggested Disposal Method #24a is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Corrosive Solids, Toxic, N.O.S. Hazard class: 8. UN number: UN2923.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

Not listed.

SECTION 16 — OTHER INFORMATION

This Safety Data Sheet (SDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific, Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. The data should not be confused with local, state, federal or insurance mandates, regulations, or requirements and CONSTITUTE NO WARRANTY. Any use of this data and information must be determined by the science instructor to be in accordance with applicable local, state or federal laws and regulations. The conditions or methods of handling, storage, use and disposal of the product(s) described are beyond the control of Flinn Scientific, Inc. and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT(S).

Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: March 21, 2014



SDS #: 571.2

Revision Date: December 3, 2018

Safety Data Sheet (SDS)

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Oxalic Acid Solution 0.19 M or Less

Signal Word
WARNING

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261
 Chemtrec Emergency Phone Number: (800) 424-10086

Pictograms

SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Skin and serious eye damage, corrosion or irritation (Category 2, 2A). Causes skin and serious eye irritation (H315+H319).



SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

| Component Name | CAS Number | Formula | Formula Weight | Concentration |
|-----------------------|------------|---|----------------|---------------|
| Oxalic acid dihydrate | 6153-56-6 | H ₂ C ₂ O ₄ •2H ₂ O | 126.07 | 1.9% or less |
| Water | 7732-18-5 | H ₂ O | 18.00 | 98.5+% |

SECTION 4 — FIRST AID MEASURES

Get medical advice or attention (P313).

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing (P305+P351+P338). **If eye irritation persists eyes:** Get medical advice or attention (P337+P313).

If on skin: Wash with plenty of water (P302+P352). **If skin irritation occurs:** Get medical advice or attention (P332+P313).

If swallowed: Rinse mouth. Do NOT induce vomiting.

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable, noncombustible solution.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA Code
 None established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Ventilate area. Contain spill with sand or absorbent material; deposit in sealed bag or container. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Organic #1. Store with acids, anhydrides and peracids.

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection (P280). Wash hands thoroughly after handling (P264).

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Clear liquid may have white solid sitting on the bottom of the container. Odorless.

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with bases, acid chlorides, alkali metals.
Shelf life: Indefinite, if stored properly.

SECTION 11 — TOXICOLOGICAL INFORMATION

| | |
|--|---|
| Acute effects: Toxic if ingested, skin and eye irritation | ORL-RAT LD ₅₀ : 375 mg/kg (as oxalic acid dihydrate) |
| Chronic effects: Targets many organs and organ systems. | IHL-RAT LC ₅₀ : N.A. |
| Target organs: Kidneys, nervous system, brain, heart, eyes, mucous membranes | SKN-RBT LD ₅₀ : N.A. |

SECTION 12 — ECOLOGICAL INFORMATION

LC₅₀ Bluegill: 4000 mg/l 24 hours for reagent grade

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.
Flinn Suggested Disposal Method #24a is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Not regulated. Hazard class: N/A. UN number: N/A.

SECTION 15 — REGULATORY INFORMATION

Not listed.

SECTION 16 — OTHER INFORMATION

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N.A. = Not available, not all health aspects of this substance have been fully investigated.

N/A = Not applicable

Consult your copy of the Flinn Science Catalog/Reference Manual for additional information about laboratory chemicals.

Revision Date: December 3, 2018

OXIDATION-REDUCTION TITRATIONS KIT # AP8815

Flinn Scientific

The Oxidation–Reduction Titrations Classic Lab Kit for AP® Chemistry provides students with the ability to practice the process of titration and standardization, writing half reactions and determining scientific calculations.

Chemicals Included:

Ferrous ammonium sulfate, 50 g

Manganese(II) sulfate solution, 1 M, 100 mL

Oxalic acid solution, 0.25 M, 100 mL

Potassium permanganate solution, 0.1 M, 500 mL

Sulfuric acid solution, 6 M, 500 mL, 2

****PLEASE LOOK UP CHEMICAL SDS'S INDIVIDUALLY****