SPI Supplies Division
Structure Probe, Inc.
206 Garfield Ave., West Chester, PA 19380-4512 USA
Phone: 1-(610)-436-5400 **Fax:** 1-(610)-436-5755
sales@2spi.com
http://www.2spi.com
Manufacturer's CAGE: 1P573

Safety Data Sheet

Date Effective: April 3, 2018

SPI Catalog #'s 02562-AB, 02562-MB

SPI-Chem™ Acridine Orange Hydrochloride Hydrate

Section 1.1: Identification

Chemical Name/Synonyms ..... Acridine Orange Hydrochloride Hydrate; 3,6-Bis(dimethylamino)acridine hydrochloride; 3,6-Acridinediamine,N,N,N',N'-tetramethyl-,monohydrochloride; Basic Orange 14; C.I. 46005

Product or Trade Name ..... SPI-Chem™ Acridine Orange Hydrochloride Hydrate

CAS #'s 65-61-2

Chemical Formula..... $C_{17}H_{19}N_3 \cdot HCl \cdot xH_2O$

Section 1.2: Relevant Uses/Restrictions

Chemical stain for microscopy.

Section 1.3: Supplier of the Safety Data Sheet

SPI Supplies Division
Structure Probe, Inc.
206 Garfield Ave., West Chester, PA 19380-4512 USA
Phone: 1-(610)-436-5400 **Fax:** 1-(610)-436-5755
sales@2spi.com
http://www.2spi.com
Manufacturer's CAGE: 1P573

Section 1.4: Emergency telephone number

Emergencies
Contacting CHEMTREC:

24 Hour Emergency Use Only #'s...
Worldwide phone: 1-(703)-741-5970
Toll-free phone: 1-(800)-424-9300 USA + Canada only

Section 2: Hazard Identification

2.1 Classification of the substance

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Acute oral toxicity (category 4)
Acute dermal toxicity (category 4)

Acute Inhalation Toxicity – Dusts and Mists (category 4)
Germ Cell Mutagenicity (Category 1A)

2.2 Label elements

Pictogram

Signal Word: Danger

Hazard statements:

H302 Harmful if swallowed
H310 Harmful in contact with skin
H332 Harmful if inhaled
H340 May cause genetic defects

Precautionary statements:

P201 Obtain special instructions before use
P202 Do not handle until all safety precautions have been read and understood
P281 Use personal protective equipment as required
P264 Wash face, hands, and any exposed skin thoroughly after handling
P270 Do not eat, drink, or smoke when using this product
P261 Avoid breathing dust, fume/ gas/ mist/ vapors/ spray
P271 Use only outdoors or in a well-ventilated area
P308 + P313 If exposed or concerned: Get medical attention/ advice
P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P302 + P352 IF ON SKIN: Wash with plenty of soap and water
P312 Call a POISON CENTER or doctor/physician if you feel unwell
P363 Wash contaminated clothing before reuse
P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
P330 Rinse mouth
P405 Store locked up
P501 Dispose of contents/container to an approved waste disposal plant

2.3 Other Hazards: None identified.

Hazardous Material Information System USA (estimated)

Health 2
Fire Hazard 1
Reactivity 1
Personal Protection .....

NFPA Rating (estimated)

Health 2
Flammability..... 1
Reactivity 1

Section 3: Composition

3.1 Substances:
Acridine Orange Hydrochloride Hydrate, CAS # 65-61-2, EINECS # 200-614-0, C.I. 46005

Section 4: First Aid Measures

4.1 Description of first aid measures:

Inhalation:
May be harmful if inhaled.
May be irritating to the throat with a feeling of tightness in the chest.
Exposure may cause coughing or wheezing.
Move to fresh air.
If breathing is difficult, give oxygen.
If not breathing, give artificial respiration. Obtain medical attention.

Skin Contact:
Wash immediately with plenty of soap and water.

Eye Contact:
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
Obtain medical attention.

Ingestion:
May be harmful if swallowed.
Nausea and stomach pain may occur.
There may be vomiting and diarrhea.
Rinse mouth with water.
Get medical attention.

4.2 Most important symptoms and effects, both acute and delayed:
No additional information available.

4.3 Indication of any immediate medical attention and special treatment needed:
Notes to Physician: Treat symptomatically.

Section 5: Fire Fighting Measures

5.1 Extinguishing media:

Water spray; Carbon dioxide; Dry chemical; Chemical foam.

5.2 Special hazards arising from the substance or mixture:

In combustion, emits toxic fumes.

Hazardous combustion products:

Hydrogen chloride gas; Nitrogen oxides (NO_x), Carbon Monoxide (CO), Carbon Dioxide (CO^2)

5.3 Advice for firefighters:

Special protective equipment and precautions for firefighters:

As in any fire, wear self-contained breathing apparatus, pressure-demand, MSHA/NIOSH

(approved or equivalent) and full protective gear.

Section 6: Accidental Release Measures

6.1 Personal precautions:

Ensure adequate ventilation.
Use personal protective equipment.

6.2 Environmental precautions:

Do not discharge into drains or rivers.

6.3 Methods and material for containment and cleaning up:

Avoid dust formation.
Sweep up or vacuum up spillage and collect in suitable container for disposal.
Wash the spillage site with large amounts of water.

6.4 Reference to other sections:

See Section 12 for additional ecological information.

Section 7: Handling and Storage

7.1 Precautions for safe handling:

Protective measures:

Avoid contact with skin and eyes.
Do not breathe dust.
Do not breathe vapors or spray mist.
Do not ingest.

7.2 Conditions for safe storage, including any incompatibilities:

Keep in a dry, cool, and well-ventilated place.
Keep container tightly closed.

7.3 Specific end uses:

Chemical stain for microscopy.
This material is not being offered for clinical or diagnostic applications, agricultural uses or for human or animal consumption.

Section 8: Exposure Controls and Personal Protection

8.1 Control parameter and Personal Protection:

Workplace exposure limits:

This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Biological limit values: No information available.

8.2 Exposure controls:

8.2.1 Appropriate engineering controls:

Ensure adequate ventilation, especially in confined areas.

8.2.2 Individual protection measures:

Eye protection: Wear appropriate protective eyeglasses or chemical safety goggles as

described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin protection: Wear protective clothing with elasticated cuffs and closed neck. Boots.

Hand protection: Protective gloves.

Respiratory protection: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard #N149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety practice.

8.2.3 Environmental exposure controls: No additional information available.

Section 9: Physical and Chemical Properties

9.1 Information on basic physical and chemical properties:

Appearance: Brown powder

Odor: Perceptible odor

Odor threshold: No data available

pH: No data available

Melting point/Freezing point: 284-287 °C (543.2-548.6 °F)

Boiling point/Boiling point range: No data available

Flash Point: No data available

Evaporation rate: Negligible

Flammability (solid, gas): No data available

Upper/lower flammability or explosive limits: No data available

Vapor Pressure: No data available

Vapor density: No data available

Relative density: No data available

Solubility: Soluble in water

Partition coefficient (n-octanol/water): No data available

Auto-ignition temperature: No data available

Decomposition temperature: No data available

Viscosity: No data available

Explosive properties: No data available

Oxidizing Properties: Non-oxidizing

9.2 Other information: No data available

Section 10: Stability and Reactivity

10.1 Reactivity: None known, based on information available.

10.2 Chemical Stability: Stable under recommended storage conditions. Hygroscopic.

10.3 Possibility of Hazardous Polymerization: Hazardous polymerization does not occur.

10.4 Conditions to avoid: Avoid dust formation. Avoid incompatible products. Avoid exposure to moist air or water.

10.5 Incompatible materials: Strong oxidizing agents.

10.6 Hazardous decomposition products: Hydrogen chloride gas; Nitrogen oxides (NO_x); Carbon monoxide (CO); Carbon dioxide (CO_2).

Section 11: Toxicological Information

Information on the likely routes of exposure:

11.1 Information on toxicological effects:

A. Acute toxicity:

No acute toxicity information is available for this product.

B. Skin corrosion/irritation:

No information available.

C. Serious eye damage/irritation:

No information available.

D. Respiratory or skin sensitization:

No information available.

E. Germ cell mutagenicity:

Ames test: positive.

F. Carcinogenicity:

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible, or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

G. Reproductive toxicity: No information available.

H. STOT-single exposure: No information available.

I.. STOT-repeated exposure: Mutagen – Laboratory experiments have shown mutagenic effects.

Species: Fish (Salmon)

Type of test: DNA Adduct

Dose/Duration: 40 nmol / L
Cell Type: Sperm

Species: Mouse
Type of test: DNA damage
Dose: 20 umol / L
Cell Type: Ascites tumor

Species: Hamster
Type of test: Morphological transformation
Dose: 2500 ug / L
Cell Type: Embryo

Species: Mammal
Type of test: DNA adduct
Dose: 10 pph
Cell Type: species unspecified Lymphocyte

J. Aspiration hazard: No information available.

Section 12: Ecological Information

12.1 Toxicity: No data available.

12.2 Persistence and degradability: No data available.

12.3 Bio-accumulative potential: No data available.

12.4 Mobility in soil: No data available.

12.5 Results of PBT and vPvB assessment: PBT/vPvB assessment not available as chemical safety assessment not required/ not conducted.

12.6 Other adverse effects: No data available.

Section 13: Disposal Considerations

13.1 Waste treatment methods:

Product: Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging: Dispose of as unused product.

Section 14: Transport Information

DOT:

UN Number: UN3143
Proper Shipping Name: Dye, Solid, Toxic, N.O.S.
Hazard Class: 6.1
Packing Group: III

IATA:

UN Number: UN3143
Proper Shipping Name: Dye, Solid, Toxic, N.O.S.
Hazard Class: 6.1
Packing Group: III

IMDG:

UN Number: UN3143
Proper Shipping Name: Dye, Solid, Toxic, N.O.S.
Hazard Class: 6.1
Packing Group: III

Section 15: Regulatory Information

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

U.S. Government Regulations:

TSCA: Listed

TSCA 12(b): Not applicable

SARA 313: Not applicable

SARA 311/312:

Acute Health Hazard: Yes
Chronic Health Hazard: Yes
Fire Hazard: No
Sudden Release of Pressure Hazard: No
Reactive Hazard: No

CWA (Clean Water Act): Not applicable

Clean Air Act: Not applicable

OSHA: Not applicable

CERCLA: Not applicable

California Prop. 65: This product does not contain any Prop. 65 chemicals.

U.S. Department of Transportation:

Reportable Quantity (RQ): No
Marine Pollutant: No
Sever Marine Pollutant: No

U.S. Department of Homeland Security: This product does not contain any DHS chemicals.

International Inventories:

DSL (Domestic Substances List – Canada): Listed
EINECS (European Inventory of Existing Commercial Chemical Substances): 200-614-0
PICCS (Philippine Inventory of Chemicals and Chemical Substances): Listed
AICS (Australian Inventory of Chemical Substances): Listed
IECSC (Inventory of Existing Chemical Substances in China): Listed

15.2 Chemical Safety Assessment: Has not been carried out.

Date of Preparation: 03 April 2018.

Abbreviations and acronyms
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
CMRG: Chemical Manufacturer's Recommended Guidelines
IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
AIHA: American Industrial Hygiene Association
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bio-accumulative and Toxicological
vPvB: very Persistent and very Bio-accumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety Health
ATE: Acute Toxicity Estimates
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
STEL: Short Term Exposure Limit
CEIL: Ceiling

Section 16: Other Information

Disclaimer of Liability:

Caution! Do not use SPI Supplies products or materials in applications involving implantation within the body; direct or indirect contact with the blood pathway; contact with bone, tissue, tissue fluid, or blood; or prolonged contact with mucous membranes. Products offered by SPI Supplies are not designed or manufactured for use in implantation in the human body or in contact with internal body fluids or tissues. SPI Supplies will not provide to customers making devices for such applications any notice, certification, or information necessary for such medical device use required by US FDA (Food and Drug Administration) regulation or any other statute. SPI Supplies and Structure Probe, Inc. make no representation, promise, express warranty or implied warranty concerning the suitability of these materials for use in implantation in the human body or in contact with internal body tissues of fluids.

The information and recommendations set forth above are taken from sources believed to be accurate as of the date hereof, however SPI Supplies and Structure Probe, Inc. make no warranty with respect to the accuracy of the information or the suitability of the recommendations, and assume no liability to any user thereof. The information contained in this sheet does not constitute a hazard assessment and should not be used in place of the user's own assessment of work place risks as required by other health and safety legislation. Be aware of the Structure Probe, Inc. Copyright Policy. Structure Probe, Inc. grants a nonexclusive license to make unlimited copies of this safety sheet for internal use only. Quite obviously, this information would pertain only to this material when purchased from SPI Supplies as product from other sources, with other ingredients and impurity levels could have substantially different properties.