

Copper Toner

Material Safety Data Sheet

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SECTION 1: Identification

1.1. Identification

Product form : Solid powder
Substance name : Copper Toner
Chemical name : N/A - Mixture
CAS-No. : N/A - Mixture
Brand : Flic Film Inc.

1.2. Recommended use and restrictions on use

Use of the substance/mixture : For photographic use only.
Recommended use : Photographic chemicals
Restrictions on use : Not for food, drug or household use

1.3. Supplier

Flic Film Inc.
10B Morrison Road, Longview, Alberta,
Canada T0L 1H0
T +1-403-982-4272

1.4. Emergency telephone number

Emergency number : +1-403-982-4272

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture GHS classification

Based on copper (II) sulfate content

Acute toxicity (oral) Category 4	H301	Toxic if swallowed
Serious eye damage/eye irritation Category 1	H315	Causes skin irritation

2.2. GHS Label elements, including precautionary statements

GHS labelling

Hazard pictograms (GHS) :



GHS06



GHS07



GHS09

Signal word (GHS) :

Danger

Hazard statements (GHS) :

H301 - Toxic if swallowed
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H410 - Very toxic to aquatic life with long lasting effects

Precautionary statements (GHS) :

P264 - Wash... thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P273 - Avoid release to the environment
P280 - Wear eye protection / face protection.
P330 - Rinse mouth
P301+P310 - IF SWALLOWED: immediately call a POISON CENTER or doctor/physician
P320+P352 - IF ON SKIN: Wash with soap and water

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- P305+PP351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P332+P313 - If skin irritation occurs: Get medical advice/attention.
- P337+P313 - If eye irritation persists get medical advice/attention.
- P362 - Take off contaminated clothing and wash before reuse.
- P391 - Collect spillage.
- P405 - Store in a closed container.
- P501 - Dispose of contents / container to an approved waste disposal plant.

2.3. Other hazards which do not result in classification

Other hazards not contributing to the classification : None under normal conditions.

2.4. Unknown acute toxicity (GHS)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Substance type : Multi-constituent

Name	Product identifier	% w/w
Part A Copper (II) sulfate	(CAS-No.) 7758-98-75	20-30
Potassium citrate	(CAS-No.) 6100-05-6	75-85
Part B Potassium ferricyanide (potassium hexacyanoferrate (III))	(CAS-No.) 13746-66-2	20-30
Potassium citrate [potassium hexacyanoferrate (III)]	(CAS-No.) 6100-05-6	75-85

Full text of hazard classes and H-statements : see section 16

3.2. Mixtures

Not applicable

SECTION 4: First-aid measures

4.1. Description of first aid measures

- First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
- First-aid measures after inhalation : Allow victim to breathe fresh air. Allow the victim to rest.
- First-aid measures after skin contact : Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
- First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor/physician.
- First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention. Call a POISON CENTER or doctor/physician if you feel unwell.

4.2. Most important symptoms and effects (acute and delayed)

- Symptoms/effects : Non identified.
- Symptoms/effects after skin contact : May cause an allergic skin reaction.
- Symptoms/effects after eye contact : Causes serious eye damage.
- Symptoms/effects after ingestion : Swallowing a small quantity of this material will result in serious health hazard.

4.3. Immediate medical attention and special treatment, if necessary

Obtain medical assistance.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

- Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray. Sand.
- Unsuitable extinguishing media : N/A

5.2. Specific hazards arising from the chemical

Copper (II) sulfate is not considered a fire hazard but reacts with metals, e.g., aluminium, magnesium, etc., and heat.

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5.3. Special protective equipment and precautions for fire-fighters

- Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

- Protective equipment : Safety glasses. Protective clothing. Gloves. Dust mask.
- Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

- Protective equipment : Equip cleanup crew with proper protection.
- Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters. Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

- Methods for cleaning up : On land, sweep or shovel into suitable containers. Minimize generation of dust. Store away from other materials.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor. Avoid breathing dust. Obtain special instructions before use. Use personal protective equipment as required. Do not handle until all safety precautions have been read and understood.
- Hygiene measures : Do not eat, drink or smoke when using this product. Wash exposed skin thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Keep container closed when not in use.
- Incompatible products : Strong mineral acids, alkalies, metals and oxidizing agents.
- Incompatible materials : Direct sunlight.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Component	Occupational Exposure Limits
Potassium citrate	Not hazardous.
Copper (II) sulfate	ACGIH TWA 1mg/m ³ / IDLH 0.2mg/m ³
Potassium ferricyanide [potassium hexacyanoferrate (III)]	ACGIH TLV 5mg/m ³ / ACGIH TWA 1mg/m ³

8.2. Appropriate engineering controls

- Appropriate engineering controls : Emergency eye wash fountains should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation. Material should be handled using local exhaust ventilation (LEV) or laboratory hood whenever possible.

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8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Chemical resistant apron. Gloves. Face shield. Protective clothing. Safety glasses.



Hand protection:

Wear protective gloves

Eye protection:

Chemical goggles or safety glasses

Respiratory protection:

Respiratory protection not required in normal conditions

Other information:

Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid.
Appearance	: Crystalline / powdery solid.
Colour	: Blue (copper [II] sulfate) / yellowish brown to red (potassium ferricyanide)
Odour	: None.
Odour threshold	: No data available.
pH	: No data available.
Melting point	: No data available.
Freezing point	: No data available.
Boiling point	: No data available.
Flash point	: No data available.
Flammability (solid, gas)	: Non flammable.
Vapour pressure	: No data available.
Relative vapour density at 20 °C	: No data available.
Relative density	: No data available.
Specific gravity / density	: No data available.
Molecular mass	: N/A - Mixture.
Solubility	: Soluble in water.
Auto-ignition temperature	: No data available.
Decomposition temperature	: No data available.
Viscosity, kinematic	: No data available.
Viscosity, dynamic	: No data available.
Explosion limits	: No data available.
Explosive properties	: No data available.
Oxidizing properties	: No data available.

9.2. Other information

No additional information available

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SECTION 10: Stability and reactivity

10.1. Reactivity

Potassium ferricyanide contact with strong mineral acids liberates very toxic gas. Copper (II) sulfate reacts with magnesium, aluminium, etc., when heated.

10.2. Chemical stability

May discolour on exposure to air. May discolour on exposure to light.

10.3. Possibility of hazardous reactions

Do not add strong mineral acids (e.g., nitric, sulfuric or hydrochloric acids) to the powders, since it will generate very toxic gases.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

Strong acids, oxidizing agents, fluorine, nitrates, hydrogen halides, metals (e.g., aluminium, magnesium, etc.) ammonia or chromium (VI) oxide.

10.6. Hazardous decomposition products

Carbon monoxide. Carbon dioxide. Hydrogen cyanide. Sulfur dioxide. Sulfur trioxide.

11.1. Information on toxicological effects

Note: Potassium citrate - No toxicological data.

Likely routes of exposure : Inhalation; Skin and eye contact

Acute toxicity : Oral: Harmful if swallowed.

Copper (II) sulfate

LD50 oral rat	: 300 mg/kg
LD50 oral mouse	: 369 mg/kg
Respiratory or skin sensitization	: Not classified.
Germ cell mutagenicity	: Mutagenic for mammalian somatic cells. May cause damage to kidneys and liver.
Carcinogenicity	: Not classified

Potassium ferricyanide [potassium hexacyanoferrate (II)]

LD50 oral rat	: > 5,110 mg/kg
LD50 Dermal - Rat - male and female	: > 2,000 mg/kg
Irritation skin	: No skin irritation
Serious eye damage/eye irritation	: Eye irritation (rabbit)
Respiratory or skin sensitization	: Negative
Germ cell mutagenicity	: Negative
Carcinogenicity	: No data available
Symptoms/effects after skin contact	: May cause an allergic skin reaction.
Symptoms/effects after eye contact	: Causes serious eye damage.
Symptoms/effects after ingestion	: Swallowing a small quantity of this material will result in serious health hazard.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - water : Copper (II) sulfate and potassium ferricyanide [potassium hexacyanoferrate (III)] are very toxic to aquatic life.

12.2. Persistence and degradability

Blue Toner - all or individual ingredients

Persistence and degradability	Not established.
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12.3. Bioaccumulative potential

Blue Toner - all or individual ingredients

Bioaccumulative potential	Not established.
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12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to comply with local, state and federal regulations.

Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

Department of Transportation (DOT)

: No transport restrictions for small packages, i.e. these are small quantity kits and not regulated.

In accordance with DOT Transport document description

: UN3077 Environmentally hazardous substances, solid, n.o.s., 9, III

UN-No.(DOT)

: UN3077

Proper Shipping Name (DOT)

: Environmentally hazardous substances, solid, n.o.s.

Transport hazard class(es) (DOT)

: 9 - Class 9 - Miscellaneous hazardous material 49 CFR 173.140

Packing group (DOT)

: III - Minor Danger

Hazard labels (DOT)

: 9 - Class 9 (Miscellaneous dangerous materials)



Dangerous for the environment

: Yes

Marine pollutant

: Yes



DOT Packaging Non Bulk (49 CFR 173.xxx)

: 213

DOT Packaging Bulk (49 CFR 173.xxx)

: 240

DOT Symbols

: G - Identifies PSN requiring a technical name

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DOT Special Provisions (49 CFR 172.102)	: 8 - A hazardous substance that is not a hazardous waste may be shipped under the shipping description "Other regulated substances, liquid or solid, n.o.s.", as appropriate. In addition, for solid materials, special provision B54 applies. 146 - This description may be used for a material that poses a hazard to the environment but does not meet the definition for a hazardous waste or a hazardous substance, as defined in 171.8 of this subchapter, or any hazard class as defined in Part 173 of this subchapter, if it is designated as environmentally hazardous by the Competent Authority of the country of origin, transit or destination. 335 - Mixtures of solids that are not subject to this subchapter and environmentally hazardous liquids or solids may be classified as "Environmentally hazardous substances, solid, n.o.s.," UN3077 and may be transported under this entry, provided there is no free liquid visible at the time the material is loaded or at the time the packaging or transport unit is closed. Each transport unit must be leak-proof when used as bulk packaging. A112 - Notwithstanding the quantity limits shown in Column (9A) and (9B) for this entry, the following IBCs are authorized for transportation aboard passenger and cargo-only aircraft. Each IBC may not exceed a maximum net quantity of 1,000 kg: a. Metal: 11A, 11B, 11N, 21A, 21B and 21N b. Rigid plastics: 11H1, 11H2, 21H1 and 21H2 c. Composite with plastic inner receptacle: 11HZ1, 11HZ2, 21HZ1 and 21HZ2 d. Fiberboard: 11G e. Wooden: 11C, 11D and 11F (with inner liners) f. Flexible: 13H2, 13H3, 13H4, 13H5, 13L2, 13L3, 13L4, 13M1 and 13M2 (flexible IBCs must be sift-proof and water resistant or must be fitted with a sift-proof and water resistant liner). B54 - Open-top, sift-proof rail cars are also authorized. IB8 - Authorized IBCs: Metal (11A, 11B, 11N, 21A, 21B, 21N, 31A, 31B and 31N); Rigid plastics (11H1, 11H2, 21H1, 21H2, 31H1 and 31H2); Composite (11HZ1, 11HZ2, 21HZ1, 21HZ2, 31HZ1 and 31HZ2); Fiberboard (11G); Wooden (11C, 11D and 11F); Flexible (13H1, 13H2, 13H3, 13H4, 13H5, 13L1, 13L2, 13L3, 13L4, 13M1 or 13M2). IP3 - Flexible IBCs must be sift-proof and water-resistant or must be fitted with a sift-proof and water-resistant liner. N20 - A 5M1 multi-wall paper bag is authorized if transported in a closed transport vehicle. T1 - 1.5 178.274(d)(2) Normal..... 178.275(d)(2) TP33 - The portable tank instruction assigned for this substance applies for granular and powdered solids and for solids which are filled and discharged at temperatures above their melting point which are cooled and transported as a solid mass. Solid substances transported or offered for transport above their melting point are authorized for transportation in portable tanks conforming to the provisions of portable tank instruction T4 for solid substances of packing group III or T7 for solid substances of packing group II, unless a tank with more stringent requirements for minimum shell thickness, maximum allowable working pressure, pressure-relief devices or bottom outlets are assigned in which case the more stringent tank instruction and special provisions shall apply. Filling limits must be in accordance with portable tank special provision TP3. Solids meeting the definition of an elevated temperature material must be transported in accordance with the applicable requirements of this subchapter.
DOT Packaging Exceptions (49 CFR 173.xxx)	: 155
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	: No limit
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	: No limit
DOT Vessel Stowage Location	: A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.
Other information	: No supplementary information available.

SECTION 15: Regulatory information

Canadian National Regulations

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Not listed on the Canadian DSL (Domestic Substances List)

Not listed on the Canadian IDL (Ingredient Disclosure List)

SECTION 16: Other information

Full text of H-phrases:

H301	- Toxic if swallowed
H315	- Causes skin irritation
H319	- Causes serious eye irritation
H410	- Very toxic to aquatic life with long lasting effects