

# SAFETY DATA SHEET

## CURATOR – VERDIGRIS SOLUTION

### PRODUCT DESCRIPTION

A cold patination treatment which imparts a blue/green patina (Verdigris) to brass, copper, bronze and gun metal. This replicates the patina which occurs naturally to these metals due to atmospheric corrosive reaction.

**DIRECTIONS** : Remove any metal lacquer using paint stripper first. Thoroughly remove and clean any grease or oil, including fingerprints and wipe dry. Proper preparation of the surface is essential. Dilute Verdigris Solution with 10 parts water, and either apply directly onto the item using a cotton wool pad or brush, or immerse items for a minimum of 5 to 10 minutes in a suitable container. Withdraw the item from liquid and allow the solution to dry on the surface. It is this drying phase that imparts the greening effect. The longer the drying time, the better the effect. This treatment will produce a light green patina which may be darkened and made more even by repeating the process, ensuring the work is thoroughly dried between immersions.

**IMPORTANT** : Always test products first on a spare surface or inconspicuous area to check colour, compatibility and end result.

### SECTION 1 :

#### IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY/UNDERTAKING

##### **1.1 Product Identifier**

Product name: CUPRIC NITRATE SOLUTION 33% AS CU(NO<sub>3</sub>)<sub>2</sub>.3H<sub>2</sub>O

CAS number: 10031-43-5

EINECS number: 221-838-5

Synonyms: COPPER NITRATE SOLUTION 33% AS CU(NO<sub>3</sub>)<sub>2</sub>.3H<sub>2</sub>O

##### **1.2 Relevant identified uses of the substance or mixture and uses advised against**

Use of substance / mixture: Water treatment. For use as a water treatment chemical. For use as a catalyst. colourant in concrete finishing Industrial uses only. Manufacture of substances. Stain and decolourant for glass. PC2: Adsorbents. PC3: Air care products. PC9a: Coatings and paints, thinners, paint removers. PC9b: Fillers, putties, plasters, modelling clay. PC12: Fertilizers. PC14: Metal surface treatment products, including galvanic and electroplating products. PC15: Non-metal-surface treatment products. PC19: Intermediate. PC20: Products such as pH-regulators, flocculants, precipitants, neutralization agents. PC21: Laboratory chemicals. PC23: Leather tanning, dye, finishing, impregnation and care products. PC24: Lubricants, greases, release products. PC31: Polishes and wax blends.

##### **1.3 Details of the supplier of the safety data sheet**

Company Name : Horological Solvents Ltd  
Barnside, 194 Wellington Road, Bury, Lancs. BL9 9AH  
Tel: 0161 764 2741  
Fax : 0161 764 8696  
Email : [horological@restoration-materials.co.uk](mailto:horological@restoration-materials.co.uk)

##### **1.4 Emergency telephone number**

Emergency Tel : 0161 764 2741 (office hours only)

**SECTION 2 : HAZARDS IDENTIFICATION****2.1 Classifications of the substance or mixture**

**Classification under CLP:** Aquatic Chronic 3: H412; Skin Corr. 1B: H314

**Most important adverse effects:** Causes severe skin burns and eye damage. Harmful to aquatic life with long lasting effects.

**2.2 Label elements**

**Label elements:**

**Hazard statements:**

H314: Causes severe skin burns and eye damage.

H412: Harmful to aquatic life with long lasting effects.

**Hazard pictograms:** GHS05: Corrosion



**Signal words:** Danger

**Precautionary statements:**

P264: Wash thoroughly after handling.

P273: Avoid release to the environment.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P321: Specific treatment (see instructions on this label).

P405: Store locked up.

**2.3 Other hazards**

PBT: This product is not identified as a PBT/vPvB substance.

**SECTION 3 : COMPOSITION / INFORMATION ON INGREDIENTS****3.2 Mixtures**

**Hazardous ingredients:**

COPPER NITRATE - REACH registered number(s): 01-2119969290-34-XXXX

EINECS	CAS	PBT / WEL	CLP Classification	Percent
221-838-5	3251-23-8	-	Skin Corr. 1B: H314; Eye Dam. 1: H318; Aquatic Acute 1: H400; Aquatic Chronic 2: H411 1	10 – 30%

**SECTION 4 : FIRST AID MEASURES****4.1 Description of first aid measures**

**Skin contact:** Remove all contaminated clothes and footwear immediately unless stuck to skin. Drench the affected skin with running water for 10 minutes or longer if substance is still on skin. Consult a doctor.

**Eye contact:** Bathe the eye with running water for 15 minutes. Consult a doctor.

**Ingestion:** Wash out mouth with water. Do not induce vomiting. If conscious, give half a litre of water to drink immediately. Consult a doctor.

**Inhalation:** Remove casualty from exposure ensuring one's own safety whilst doing so. Consult a doctor.

## 4.2 Most important symptoms and effects, both acute and delayed

**Skin contact:** There may be irritation and redness at the site of contact.

**Eye contact:** There may be irritation and redness. The eyes may water profusely.

**Ingestion:** There may be soreness and redness of the mouth and throat. Nausea and stomach pain may occur. There may be vomiting.

**Inhalation:** There may be irritation of the throat with a feeling of tightness in the chest.

## 4.3 Indication of any immediate medical attention and special treatment needed

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

#### 5.1 Extinguishing Media

Suitable extinguishing media for the surrounding fire should be used. Use water spray to cool containers.

#### 5.2 Special hazards arising from the substance or mixture

Exposure hazards: In combustion emits toxic fumes.

#### 5.3 Advice for fire-fighters

Wear self-contained breathing apparatus. Wear protective clothing to prevent contact with skin and eyes.

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

#### 6.1 Personal precautions, protective equipment and emergency procedures

**Personal precautions:** Refer to section 8 of SDS for personal protection details. If outside do not approach from downwind. If outside keep bystanders upwind and away from danger point. Mark out the contaminated area with signs and prevent access to unauthorised personnel.

#### 6.2 Environmental precautions

Do not discharge into drains or rivers.

#### 6.3 Methods and material for containment and cleaning up

**Clean-up procedures:** Transfer to a closable, labelled salvage container for disposal by an appropriate method.

#### 6.4 Reference to other sections

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

#### 7.1 Precautions for safe handling

**Handling requirements:**

Avoid direct contact with the substance. Ensure there is sufficient ventilation of the area.

Do not handle in a confined space. Avoid the formation or spread of dust in the air.

#### 7.2 Conditions for safe storage, including any incompatibilities

**Storage conditions:** Store in a cool, well ventilated area. Keep container tightly closed.

**Suitable packaging:** Must only be kept in original packaging.

### 7.3 Specific end use(s)

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

### 8.1 Control parameters

**Workplace exposure limits:** No data available.  
**DNEL/PNEC Values DNEL / PNEC :** No data available.

### 8.2 Exposure controls

**Engineering measures:** Ensure there is sufficient ventilation of the area.  
**Respiratory protection:** Self-contained breathing apparatus must be available in case of emergency. Respiratory protective device with particle filter.  
**Hand protection:** Protective gloves.  
**Eye protection:** Safety glasses. Ensure eye bath is to hand.  
**Skin protection:** Protective clothing.

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

### 9.1 Information on basic physical and chemical properties

State: Liquid  
Colour: Blue  
Odour: Odourless  
Oxidising: Non-oxidising (by EC criteria)  
Solubility in water: Soluble Boiling point/range°C: 266  
Melting point/range°C: 255  
Flash point°C: >93  
Vapour pressure: 0.0000000026 Pa  
Relative density: 2.39

### 9.2 Other Information

No data available

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

### 10.1 Reactivity

Stable under recommended transport or storage conditions.

### 10.2 Chemical stability

Chemical stability : Stable under normal conditions.

### 10.3 Possibility of hazardous reactions

Hazardous reactions will not occur under normal transport or storage conditions.

### 10.4 Conditions to avoid

Conditions to avoid : Heat.

### 10.5 Incompatible materials

Materials to avoid : Metals. Alkalis.

### 10.6 Hazardous decomposition products

In combustion emits toxic fumes.

**SECTION 11 : TOXICOLOGICAL INFORMATION****11.1 Information on toxicological effects****Product Information****Relevant hazards for product:**

<b>Hazard</b>	<b>Route</b>	<b>Basis</b>
Skin corrosion/irritation	DRM	Hazardous: calculated
Serious eye damage/irritation	OPT	Hazardous: calculated

**Symptoms / routes of exposure**

**Skin contact:** There may be irritation and redness at the site of contact.

**Eye contact:** There may be irritation and redness. The eyes may water profusely.

**Ingestion:** There may be soreness and redness of the mouth and throat. Nausea and stomach pain may occur. There may be vomiting.

**Inhalation:** There may be irritation of the throat with a feeling of tightness in the chest.

**SECTION 12 : ECOLOGICAL INFORMATION****12.1 Toxicity**

**Hazardous Ingredients**  
**COPPER NITRATE**

C Caprio	96H LC50	800	µg/l
Daphnia magna	48H LC50	26	µg/l
Pimephales promelas	96H LC50	390	µg/l
RAINBOW TROUT (Oncorhynchus mykiss)	96H LC50	200	µg/l

**12.2 Persistence and degradability**

Biodegradable

**12.3 Bio accumulative potential**

No bioaccumulation potential

**12.4 Mobility in soil**

Readily absorbed into soil.

**12.5 Results of PBT and vPvB assessment**

PBT identification: This product is not identified as a PBT/vPvB substance

**12.6 Other adverse effects**

Negligible ecotoxicity.

**SECTION 13 : DISPOSAL CONSIDERATIONS****13.1 Waste treatment methods**

**Disposal operations:** Transfer to a suitable container and arrange for collection by specialised disposal company.

**NB:** The user's attention is drawn to the possible existence of regional or national regulations regarding disposal

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

- 14.1 UN Number : UN3218  
14.2 UN Proper Shipping Name : NITRATES, INORGANIC, AQUEOUS SOLUTION, NOS (COPPER NITRATE SOLUTION)  
14.3 Transport Hazard Class(es) : 5.1  
14.4 Packing Group : III  
14.5 Environmental Hazards : No  
14.6 Special Precautions for User : Tunnel Code - E  
Transport Code - 2

#### **SECTION 15 : REGULATORY INFORMATION**

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

##### **15.2. Chemical Safety Assessment Chemical safety assessment:**

A chemical safety assessment has not been carried out for the substance or the mixture by the supplier.

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

This safety data sheet is prepared in accordance with Commission Regulation (EU) No 2015/830.

\* indicates text in the SDS which has changed since the last revision.

Phrases used in s.2 and s.3: H314: Causes severe skin burns and eye damage. H318: Causes serious eye damage. H400: Very toxic to aquatic life. H411: Toxic to aquatic life with long lasting effects. H412: Harmful to aquatic life with long lasting effects.

Legal disclaimer: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. This company shall not be held liable for any damage resulting from handling or from contact with the above product.

