CASWELL INC

Safety Data Sheet
Verdi Green A316

SECTION 1: Identification

1.1 Product identifier

Product name	Verdi Green A316
Product number	A316
Brand	CASWELL

1.3 Recommended use of the chemical and restrictions on use

Metal Antiquing Solution

1.4 Supplier's details

Name	Caswell Inc
Address	7696 Route 31 Lyons, NY 14489 USA
Telephone	315 946 1213
Fax	315 946 4456
email	sales@caswellplating.com

1.5 Emergency phone number(s)

Office Hours (9-4ET): 315 946 1213
24 Hour: CHEMTEL US# 1-800-255-3924 Intl# +01-813-248-0585

SECTION 2: Hazard identification

2.1 Classification of the substance or mixture

- Acute toxicity, oral (chapter 3.1), Cat. 4
- Skin corrosion/irritation (chapter 3.2), Cat. 1
- Eye damage/irritation (chapter 3.3), Cat. 1
- Hazardous to the aquatic environment - acute hazard (chapter 4.1), Cat. 1
- Hazardous to the aquatic environment - long-term hazard (chapter 4.1), Cat. 1

2.2 GHS label elements, including precautionary statements

Pictogram

Signal word	**Danger**

Hazard statement(s)

H302	Harmful if swallowed
H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

Precautionary statement(s)

P264	Wash … thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P301+P312	IF SWALLOWED: Call a POISON CENTER/doctor/.../if you feel unwell,
P330	Rinse mouth.
P501	Dispose of contents/container to …
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P363	Wash contaminated clothing before reuse.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P310	Immediately call a POISON CENTER/doctor/...
P321	Specific treatment (see … on this label).
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P405	Store locked up.
P273	Avoid release to the environment.
P391	Collect spillage.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Hazardous components

1. WATER

Concentration	40 - 60 %
CAS no.	7732-18-5

2. Ammonium chloride

Concentration	15 - 25 %
EC no.	235-186-4
CAS no.	12125-02-9
Index no.	017-014-00-8

- Acute toxicity (chapter 3.1), Cat. 4
- Eye damage/irritation (chapter 3.3), Cat. 2

H302	Harmful if swallowed
H319	Causes serious eye irritation

3. Ammonia (1%)

Concentration	15 - 30 %
EC no.	231-635-3
CAS no.	7664-41-7
Index no.	007-001-00-5

- Flammable gases (chapter 2.2), Cat. 2
- Press. Gas
- Acute toxicity (chapter 3.1), Cat. 3
- Skin corrosion/irritation (chapter 3.2), Cat. 1B
- Hazardous to the aquatic environment - acute hazard (chapter 4.1), Cat. 1

H221	Flammable gas
H314	Causes severe skin burns and eye damage
H331	Toxic if inhaled
H400	Very toxic to aquatic life

4. MOLYBDENUM TRIOXIDE

Concentration	5 - 10 %
EC no.	215-204-7
CAS no.	1313-27-5
Index no.	042-001-00-9

- Specific target organ toxicity, repeated exposure (chapter 3.9), Cat. 2
- Eye damage/irritation (chapter 3.3), Cat. 2
- Specific target organ toxicity, single exposure (chapter 3.8), Cat. 3

H319	Causes serious eye irritation
H335	May cause respiratory irritation
H373	May cause damage to organs through prolonged or repeated exposure

5. Copper (II) sulfate

Concentration	3 - 8 %
EC no.	231-847-6
CAS no.	7758-98-7
Index no.	029-004-00-0

- Acute toxicity (chapter 3.1), Cat. 4
- Eye damage/irritation (chapter 3.3), Cat. 2
- Skin corrosion/irritation (chapter 3.2), Cat. 2
- Hazardous to the aquatic environment - acute hazard (chapter 4.1), Cat. 1
- Hazardous to the aquatic environment - long-term hazard (chapter 4.1), Cat. 1

H302	Harmful if swallowed
H315	Causes skin irritation
H319	Causes serious eye irritation
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

SECTION 4: First-aid measures

4.1 Description of necessary first-aid measures

General advice	Avoid all contact. Corrosive to skin, eyes and mucous membranes.
If inhaled	If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
In case of skin contact	Wash off with soap and plenty of water. Consult a physician.
In case of eye contact	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
If swallowed	Drink 1 or 2 glasses of water. Do NOT induce vomiting. Get medical attention immediately if symptoms occur.

4.2 Most important symptoms/effects, acute and delayed
Ingestion will result in metallic taste, garlic breath and nausea.

SECTION 5: Fire-fighting measures

5.1 Suitable extinguishing media
Dry chemical, foam, carbon dioxide, water fog.

5.3 Special protective actions for fire-fighters
Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Ensure adequate ventilation. Use personal protective equipment. For personal protection see section 8.

6.3 Methods and materials for containment and cleaning up
SMALL SPILLS: Contain and absorb with absorbent material and place into containers for later disposal. Wash site of spillage thoroughly with water. LARGE SPILLS: Dike far ahead of spill to prevent further movement. Recover by pumping or by using a suitable absorbent material and place into containers for later disposal. Dispose in suitable waste container.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

1. Ammonium chloride (CAS: 12125-02-9 EC: 235-186-4)
TWA: 10mg/m3 (ACGIH)

2. Ammonia (1%) (CAS: 7664-41-7 EC: 231-635-3)
TWA: 25ppm (ACGIH)

8.3 Individual protection measures, such as personal protective equipment (PPE)

Pictograms

Eye/face protection
Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection
Wear chemical resistant gloves and clothing.

Body protection
Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection
NIOSH/MSHA approved air purifying respirator with an organic vapor cartidge or canister may be permissable under certain circumstances where airborne concentrations are expected to exceed exposure limits.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance/form (physical state, color, etc.)	Dark Blue Solution
Odor	Odorless
Odor threshold	
pH	9-10
Melting point/freezing point	None/32 deg F
Initial boiling point and boiling range	215 deg F
Flash point	None
Evaporation rate	Approx equal to water
Flammability (solid, gas)	None
Upper/lower flammability limits	
Vapor pressure	
Vapor density	Approx equal to water
Relative density	1.081-1.1
Solubility(ies)	Complete in water
Partition coefficient: n-octanol/water	
Auto-ignition temperature	
Decomposition temperature	
Viscosity	
Explosive properties	
Oxidizing properties	

SECTION 10: Stability and reactivity

10.1 Reactivity
Will not occur

10.2 Chemical stability
This is a stable material

10.4 Conditions to avoid
Avoid extreme heat

10.5 Incompatible materials
May react with strong acids. May react with strong reducing agents. Flammable and combustible materials

10.6 Hazardous decomposition products
None Known

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity
The components of this materialhave been reviewed in various sources and the following selected endpoints are published:
Water(7732-18-5)
Oral LD50Rat>90 mL/kg

Ammonium chloride(12125-02-9)
Oral LD50Rat1650 mg/kg

Ammonia(7664-41-7)
Oral LD50Rat350 mg/kg (aqueous solution)
Inhalation LC50Rat2000 ppm 4 h

Molybdenum trioxide(1313-27-5)
Inhalation LC50Rat>5840 mg/m3 4 h (no deaths occurred)

Copper (II) sulfate(7758-98-7)
Oral LD50Rat300 mg/kg
Dermal LD50Rabbit1000 mg/kg

Carcinogenicity
Molybdenum Trioxide: Category 3B

Summary of evaluation of the CMR properties
Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath headache, nausea, and vomiting. It causes conjunctivitis leading eventually to an allergic type of reaction of the eyes. Acute selenium poisoning produces central nervous system effects, which include nervousness, convulsions, and drowsiness. Other signs of gastrointestinal distress, teeth that are discolored or decayed, odorous (garlic-like) breath, and partial loss of hair and nails. Chronic exposure by inhalation can produce symptoms that include pallor, coating of the tongue, anemia, irritation of the mucosa, lumbar pain, liver and spleen damage, as well as any of the other previously mentioned symptoms.

SECTION 12: Ecological information

Toxicity
Component Analysis - Aquatic Toxicity
Ammonium
chloride
12125-02-9

Fish: LC50 96 h Cyprinus carpio 209 mg/L [static]
Ammonia 7664-41-7
Fish:
LC50 96 h Cyprinus carpio 0.44 mg/L; LC50 96 h Lepomis macrochirus 0.26 - 4.6 mg/L; LC50 96 h Lepomis macrochirus 1.17 mg/L [flow-through]; LC50 96 h Pimephales promelas 0.73 - 2.35 mg/L; LC50 96 h Pimephales promelas 5.9 mg/L [static]; LC50 96 h Poecilia reticulata >1.5 mg/L; LC50 96 h Poecilia reticulata 1.19 mg/L [static]
Invertebrate: LC50 48 h Daphnia magna 25.4 mg/L IUCLID
Copper (II)
sulfate
7758-98-7
Fish: LC50 96 h Oncorhynchus mykiss 0.1 mg/L
Invertebrate: EC50 48 h Daphnia magna 0.0058 - 0.0073 mg/L [Static] EPA

SECTION 13: Disposal considerations

Disposal of the product
Waste must be handled in accordance with all federal, state, provincial, and local regulations. Transport waste material to an authorized waste location, or incinerate under controlled conditions.

Selenous acid (7783-00-8)
RCRA: waste number U204

Disposal of contaminated packaging
Consult appropriate federal and local regulations for disposal. Empty containers are subject to the same regulations.

SECTION 14: Transport information

DOT (US)
UN Number: UN1760
Class: 8
Packing Group: II
Proper Shipping Name: Corrosive Liquid NOS (Ammonium Hydroxide, Copper Sulfate)
Reportable quantity (RQ):
Marine pollutant:
Poison inhalation hazard:
Quantities under 1L may be shipped as LTD QTY within the USA by Ground.

IMDG
UN Number: UN1760
Class: 8
Packing Group: II
EMS Number:
Proper Shipping Name:

IATA
UN Number: UN1760
Class: 8
Packing Group: II
Proper Shipping Name:

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

Massachusetts Right To Know Components
Chemical name: Ammonium chloride
CAS number: 12125-02-9

New Jersey Right To Know Components
Common name: AMMONIUM CHLORIDE
CAS number: 12125-02-9

Pennsylvania Right To Know Components
Chemical name: Ammonium chloride
CAS number: 12125-02-9

Massachusetts Right To Know Components
Chemical name: Ammonia
CAS number: 7664-41-7

New Jersey Right To Know Components
Common name: AMMONIA
CAS number: 7664-41-7

Pennsylvania Right To Know Components
Chemical name: Ammonia
CAS number: 7664-41-7

Massachusetts Right To Know Components
Chemical name: Molybdenum trioxide
CAS number: 1313-27-5

New Jersey Right To Know Components
Common name: MOLYBDENUM TRIOXIDE
CAS number: 1313-27-5

Pennsylvania Right To Know Components
Chemical name: Molybdenum trioxide
CAS number: 1313-27-5

Massachusetts Right To Know Components
Chemical name: Cupric sulfate
CAS number: 7758-98-7

New Jersey Right To Know Components
Common name: CUPRIC SULFATE
CAS number: 7758-98-7

Pennsylvania Right To Know Components
Chemical name: Sulfuric acid copper(2+) salt (1:1)
CAS number: 7758-98-7

HMIS Rating

Verdi Green A316	
HEALTH	2
FLAMMABILITY	0
PHYSICAL HAZARD	0
PERSONAL PROTECTION	C

NFPA Rating

SECTION 16: Other information

16.1 Further information/disclaimer

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