SAFETY DATA SHEET

Issue Date 25-May-2015 **Revision Date** 29-Jul-2015 **Version** 2

ES-300 **E-Stain Moss ES-300**

1. IDENTIFICATION

Product identifier
Product Name E-Stain Moss ES-300

Other means of identification
Product Code ES-300

Recommended use of the chemical and restrictions on use
Recommended Use Restricted to professional users.
Uses advised against Consumer use

Details of the supplier of the safety data sheet

Supplier Address
Solomon Colors, Inc.
4050 Color Plant Road
Springfield, IL 62702

Manufacturer Address
Solomon Colors, Inc.
4050 Color Plant Road
Springfield, IL 62702

24 Hour Emergency Phone Number 800-373-7542

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Respiratory sensitization	Category 1
Skin sensitization	Category 1
Germ cell mutagenicity	Category 1B
Carcinogenicity	Category 1A
Reproductive toxicity	Category 1B

Label elements

Emergency Overview

Danger

Hazard statements
Harmful if swallowed
Harmful if inhaled
Causes severe skin burns and eye damage
May cause allergy or asthma symptoms or breathing difficulties if inhaled
May cause an allergic skin reaction
May cause genetic defects
May cause cancer
May damage fertility or the unborn child
Causes damage to organs through prolonged or repeated exposure

Appearance Cloudy liquid **Physical state** No information available **Odor** Slight

Precautionary Statements - Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Use only outdoors or in a well-ventilated area
Do not breathe dust/fume/gas/mist/vapors/spray
In case of inadequate ventilation wear respiratory protection
Contaminated work clothing should not be allowed out of the workplace

Precautionary Statements - Response
IF exposed or concerned: Get medical advice/attention
IF IN EYES: 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
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
Wash contaminated clothing before reuse
If skin irritation or rash occurs: Get medical advice/attention
IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing
If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
IF SWALLOWED: Rinse mouth. DO NOT induce vomiting

Precautionary Statements - Storage
Store in accordance with local regulations
Store in a well-ventilated place. Keep container tightly closed

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Other Information
• Causes mild skin irritation
• Very toxic to aquatic life with long lasting effects
• Harmful to aquatic life
Unknown acute toxicity 12.8% of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Weight-%	Trade Secret
Proprietary Acid Solution	Proprietary	5-25	*
Ferrous Sulfate	7720-78-7	1-25	*
Copper Sulfate Pentahydrate	7758-99-8	0-25	*
Copper Chloride	7447-39-4	0-25	*
Ferrous Chloride	7758-94-3	0-25	*
Sodium dichromate	10588-01-9	0-15	*

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

Description of first aid measures

General advice In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

Eye contact In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Skin Contact IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

Inhalation If fumes from reactions are inhaled, move to fresh air immediately. Call a physician or poison control center immediately.

Ingestion If swallowed, call a poison control center or physician immediately. Clean mouth with water and drink afterwards plenty of water.

Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media Caution: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical
Contact with metals may evolve flammable hydrogen gas. Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Runoff may pollute waterways.

Hazardous combustion products Contact with metals may evolve flammable hydrogen gas. Hydrogen chloride.

Explosion data
Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

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.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Keep people away from and upwind of spill/leak. Ventilate affected area. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Avoid contact with skin, eyes and inhalation of vapors.

Environmental precautions

Environmental precautions Prevent entry into waterways, sewers, basements or confined areas. Prevent further leakage or spillage if safe to do so. See Section 12 for additional ecological information.

Methods and material for containment and cleaning up

Methods for containment Dike far ahead of liquid spill for later disposal. Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see Section 13).

Methods for cleaning up Pick up and transfer to properly labeled containers.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Use personal protective equipment as required. Avoid contact with skin, eyes or clothing. Wash contaminated clothing before reuse. Avoid breathing vapors or mists. Wash thoroughly after handling.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep container tightly closed in a dry and well-ventilated place. Keep/store only in original container. Keep in properly labeled containers. Keep from freezing.

Incompatible materials Strong oxidizing agents. Metals. Alkali.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines .

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Ferrous Sulfate 7720-78-7	TWA: 1 mg/m³ Fe	(vacated) TWA: 1 mg/m³ Fe	TWA: 1 mg/m³ Fe
Copper Sulfate Pentahydrate 7758-99-8	TWA: 1 mg/m³ Cu dust and mist	-	IDLH: 100 mg/m³ Cu dust and mist TWA: 1 mg/m³ Cu dust and mist
Copper Chloride 7447-39-4	TWA: 1 mg/m³ Cu dust and mist	-	IDLH: 100 mg/m³ Cu dust and mist TWA: 1 mg/m³ Cu dust and mist
Ferrous Chloride 7758-94-3	TWA: 1 mg/m³ Fe	(vacated) TWA: 1 mg/m³ Fe	TWA: 1 mg/m³ Fe
Sodium dichromate 10588-01-9	TWA: 0.05 mg/m³ Cr	TWA: 5 µg/m³ (vacated) Ceiling: 0.1 mg/m³ Ceiling: 0.1 mg/m³ CrO3 applies to any operations or sectors for which the Hexavalent Chromium standard [29 CFR 1910.1026] is stayed or is otherwise not in effect	IDLH: 15 mg/m³ Cr(VI) TWA: 0.0002 mg/m³ Cr

NIOSH IDLH Immediately Dangerous to Life or Health

Other Information Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Appropriate engineering controls

Engineering Controls Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Tight sealing safety goggles. Face protection shield.

Skin and body protection Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Respiratory protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene Considerations Wash face, hands and any exposed skin thoroughly after handling. Use personal protective equipment as required. Avoid prolonged or repeated contact with skin. Avoid breathing (dust, vapor, mist, gas). When using do not eat, drink or smoke. Wash contaminated clothing before reuse.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state No information available
Appearance Cloudy liquid
Color Green
Odor Slight
Odor threshold No information available

Property	Values	Remarks • Method
pH	No information available	
Melting point/freezing point	No information available	
Boiling point / boiling range	No information available	
Flash point	No information available	

Evaporation rate	No information available
Flammability (solid, gas)	No information available
Flammability Limit in Air	
Upper flammability limit:	No information available
Lower flammability limit:	No information available
Vapor pressure	No information available
Vapor density	No information available
Specific Gravity	No information available
Water solubility	No information available
Solubility in other solvents	No information available
Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Kinematic viscosity	No information available
Dynamic viscosity	No information available
Explosive properties	No information available
Oxidizing properties	No information available

Other Information

Softening point	No information available
Molecular weight	No information available
VOC Content (%)	No information available
Density	No information available
Bulk density	No information available

10. STABILITY AND REACTIVITY

Reactivity
No data available

Chemical stability
Stable under recommended storage conditions.

Possibility of Hazardous Reactions
None under normal processing.

Conditions to avoid
Extremes of temperature and direct sunlight.

Incompatible materials
Strong oxidizing agents. Metals. Alkali.

Hazardous Decomposition Products
Thermal decomposition can lead to release of irritating and toxic gases and vapors. Hydrogen chloride.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information No data available

Inhalation No data available.

Eye contact No data available.

Skin Contact No data available.

Ingestion No data available.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Ferrous Sulfate 7720-78-7	= 237 mg/kg (Rat)	-	-
Copper Sulfate Pentahydrate 7758-99-8	= 960 mg/kg (Rat) = 300 mg/kg (Rat)	> 2 g/kg (Rat)	-
Copper Chloride 7447-39-4	= 584 mg/kg (Rat)	-	-
Ferrous Chloride 7758-94-3	= 450 mg/kg (Rat)	-	-
Sodium dichromate 10588-01-9	= 50 mg/kg (Rat)	= 336 mg/kg (Rabbit)	= 0.124 mg/L (Rat) 4 h

Information on toxicological effects

Symptoms No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization No information available.
Germ cell mutagenicity No information available.
Carcinogenicity No information available.

Chemical Name	ACGIH	IARC	NTP	OSHA
Sodium dichromate 10588-01-9	A1	Group 1	Known	X

ACGIH (American Conference of Governmental Industrial Hygienists)
A1 - Known Human Carcinogen
IARC (International Agency for Research on Cancer)
Group 1 - Carcinogenic to Humans
NTP (National Toxicology Program)
Known - Known Carcinogen
OSHA (Occupational Safety and Health Administration of the US Department of Labor)
X - Present

Reproductive toxicity No information available.
STOT - single exposure No information available.
STOT - repeated exposure No information available.
Chronic toxicity May cause adverse liver effects.
Target Organ Effects Eyes, kidney, liver, Respiratory system, Skin.
Aspiration hazard No information available.

Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document .
ATEmix (oral) 8511 mg/kg
ATEmix (inhalation-dust/mist) 20 mg/l

12. ECOLOGICAL INFORMATION

This product contains a chemical which is listed as a marine pollutant according to DOT.

Ecotoxicity

16.4% of the mixture consists of components(s) of unknown hazards to the aquatic environment

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Ferrous Sulfate 7720-78-7	-	925: 96 h Poecilia reticulata mg/L LC50 static 0.56: 96 h Cyprinus carpio mg/L LC50 semi-static	152: 48 h Daphnia magna mg/L EC50 6.15 - 9.26: 48 h Daphnia magna mg/L EC50 Static
Copper Sulfate Pentahydrate 7758-99-8	-	0.66 - 1.15: 96 h Lepomis macrochirus mg/L LC50 semi-static 0.96 - 1.8: 96 h Lepomis macrochirus mg/L LC50 static 0.1478 - 0.165: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 0.09 - 0.19: 96 h Oncorhynchus mykiss mg/L LC50 static 0.6752: 96 h Pimephales promelas mg/L LC50 static	0.147 - 0.227: 48 h Daphnia magna mg/L EC50 Static
Ferrous Chloride 7758-94-3	-	4: 96 h Morone saxatilis mg/L LC50 static	-
Sodium dichromate 10588-01-9	-	33.2: 96 h Pimephales promelas mg/L LC50 flow-through 69: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 213: 96 h Lepomis macrochirus mg/L LC50 static	0.098 - 0.129: 48 h Daphnia magna mg/L EC50 1.4: 24 h Daphnia magna mg/L EC50

Persistence and degradability
No information available.

Bioaccumulation
No information available.

Other adverse effects No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging Do not reuse container.

Chemical Name	California Hazardous Waste Status
Copper Sulfate Pentahydrate 7758-99-8	Toxic
Copper Chloride 7447-39-4	Toxic
Sodium dichromate 10588-01-9	Toxic Corrosive Ignitable

14. TRANSPORT INFORMATION

DOT

	Not regulated (If shipped in NON BULK packaging by ground transport)
Marine pollutant	This product contains a chemical which is listed as a marine pollutant according to DOT.

TDG

UN/ID no.	3265
Proper shipping name	CORROSIVE LIQUID, ACIDIC, ORGANIC N.O.S. (UREA HYDROCHLORIDE)
Hazard Class	8
Packing Group	III
Marine pollutant	This product contains a chemical which is listed as a marine pollutant according to TDG.

ICAO (air)

UN/ID no.	3265
Proper shipping name	CORROSIVE LIQUID, ACIDIC, ORGANIC N.O.S. (UREA HYDROCHLORIDE)
Hazard Class	8
Packing Group	III

IATA

UN/ID no.	3265
Proper shipping name	CORROSIVE LIQUID, ACIDIC, ORGANIC N.O.S. (UREA HYDROCHLORIDE)
Hazard Class	8
Packing Group	III

IMDG

UN/ID no.	3265
Proper shipping name	CORROSIVE LIQUID, ACIDIC, ORGANIC N.O.S. (UREA HYDROCHLORIDE)
Hazard Class	8
Packing Group	III
Marine pollutant	This product contains a chemical which is listed as a marine pollutant according to IMDG/IMO

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	Does not comply
IECSC	Complies
KECL	Does not comply
PICCS	Complies
AICS	Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	SARA 313 - Threshold Values %
Copper Sulfate Pentahydrate - 7758-99-8	1.0
Copper Chloride - 7447-39-4	1.0
Sodium dichromate - 10588-01-9	0.1

SARA 311/312 Hazard Categories

Acute health hazard	No
Chronic Health Hazard	No
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Ferrous Sulfate 7720-78-7	1000 lb	-	-	X
Copper Sulfate Pentahydrate 7758-99-8	-	X	-	-
Copper Chloride 7447-39-4	10 lb	X	-	X
Ferrous Chloride 7758-94-3	100 lb	-	-	X
Sodium dichromate 10588-01-9	10 lb	X	-	X

CERCLA

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Ferrous Sulfate 7720-78-7	1000 lb	-	RQ 1000 lb final RQ RQ 454 kg final RQ
Copper Chloride 7447-39-4	10 lb	-	RQ 10 lb final RQ RQ 4.54 kg final RQ
Ferrous Chloride 7758-94-3	100 lb	-	RQ 100 lb final RQ RQ 45.4 kg final RQ

Sodium dichromate 10588-01-9	10 lb	-	RQ 10 lb final RQ RQ 4.54 kg final RQ

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals

Chemical Name	California Proposition 65
Sodium dichromate - 10588-01-9	Carcinogen Developmental Female Reproductive Male Reproductive

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Ferrous Sulfate 7720-78-7	X	X	X
Copper Sulfate Pentahydrate 7758-99-8	X	-	X
Copper Chloride 7447-39-4	X	X	X
Ferrous Chloride 7758-94-3	X	X	X
Sodium dichromate 10588-01-9	X	X	X

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

NFPA **Reactivity** 0 **Physical and Chemical Properties** - **HMIS** **Health hazards** 0

Flammability 0 **Physical hazards** 0 **Personal protection** X

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Revision Note
No information available

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet