SAFETY DATA SHEET

1.0 IDENTIFICATION

1.1 GHS Product Identifier: Concrete Acid Stain

1.2 Recommended Use of the Chemical and Restrictions on Use: Staining concrete

1.3 Supplier's Details: DIRECT COLORS INC.
430 EAST 10TH STREET
SHAWNEE, OK 74801
INFORMATION PHONE NUMBER: 877-255-2656

1.4 Emergency Phone Number: 1-800-424-9300 - CHEMTREC; Outside of U.S.: +1 703-527-3887

2.0 HAZARDS IDENTIFICATION

2.1 Classification of the Substance or Mixture: Category 1C Corrosive Liquid

2.2 GHS Label Elements:

Black, Coffee Brown, Desert Amber:

Warning: Potentially fatal if swallowed. Harmful in contact with skin. Harmful if inhaled. Causes serious eye irritation. May be corrosive to metals.
Danger: May cause severe skin burns and eye damage
Warning: Very toxic to aquatic life

All Other Colors:

Warning: Harmful if swallowed. Harmful in contact with skin. Harmful if inhaled. Causes serious eye irritation. May be corrosive to metals.
Danger: May cause severe skin burns and eye damage

2.3 Hazards Material Information System (United States):

Health	**3**
Flammability	**0**
Reactivity	**1**
Specific Hazards	**Corrosive**

Hazard Codes: 0=Minimal Hazard, 1=Slight Hazard, 2=Moderate Hazard, 3=Serious Hazard, 4=Severe Hazard

3.0 COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Mixtures

Color	Component	CAS No.	OSHA PEL(TWA)	ACGIH(TLV-TWA)	Weight %
Avocado	Hydrochloric Acid	7647-01-0	5 ppm	5 ppm	9
	Cupric Chloride	7447-39-4	1 mg/m^3	1 mg/m^3	17
	Ferric Chloride	7705-08-0	2 mg/m^3	2 mg/m^3	2
	Water	7732-18-5	Not Established	Not Established	72
Azure Blue	Hydrochloric Acid	7647-01-0	5 ppm	5 ppm	45
	Cupric Chloride	7447-39-4	1 mg/m^3	1 mg/m^3	8
	Water	7732-18-5	Not Established	Not Established	47
Black	Hydrochloric Acid	7647-01-0	5 ppm	5 ppm	8
	Manganese Chloride	13446-34-9	3 mg/m^3	3 mg/m^3	11
	Sodium Dichromate	7789-12-0	0.1 mg/m^3	0.05 mg/m^3	6
	Water	7732-18-5	Not Established	Not Established	75
Coffee Brown	Hydrochloric Acid	7647-01-0	5 ppm	5 ppm	8
	Manganese Chloride	13446-34-9	3 mg/m^3	3 mg/m^3	7
	Sodium Dichromate	7789-12-0	0.1 mg/m^3	0.05 mg/m^3	2
	Ferric Chloride	7705-08-0	2 mg/m^3	2 mg/m^3	6
	Water	7732-18-5	Not Established	Not Established	77
Cola	Hydrochloric Acid	7647-01-0	5 ppm	5 ppm	10
	Manganese Chloride	13446-34-9	3 mg/m^3	3 mg/m^3	1
	Cupric Chloride	7447-39-4	1 mg/m^3	1 mg/m^3	1
	Ferric Chloride	7705-08-0	1 mg/m^3	1 mg/m^3	2
	Ferrous Chloride	7758-94-3	2 mg/m^3	2 mg/m^3	2
	Water	7732-18-5	Not Established	Not Established	85
Desert Amber	Hydrochloric Acid	7647-01-0	5 ppm	5 ppm	43
	Ferrous Chloride	7758-94-3	1 mg/m^3	1 mg/m^3	2
	Sodium Dichromate	7789-12-0	0.1 mg/m^3	0.05 mg/m^3	5
	Ferric Chloride	7705-08-0	2 mg/m^3	2 mg/m^3	5
	Water	7732-18-5	Not Established	Not Established	45
English Red	Hydrochloric Acid	7647-01-0	5 ppm	5 ppm	9
	Ferrous Chloride	7758-94-3	1 mg/m^3	1 mg/m^3	9
	Manganese Chloride	13446-34-9	3 mg/m^3	3 mg/m^3	3
	Cupric Chloride	7447-39-4	1 mg/m^3	1 mg/m^3	3
	Ferric Chloride	7705-08-0	2 mg/m^3	2 mg/m^3	3
	Water	7732-18-5	Not Established	Not Established	73
Malayan Buff	Hydrochloric Acid	7647-01-0	5 ppm	5 ppm	9
	Ferrous Chloride	7758-94-3	1 mg/m^3	1 mg/m^3	1
	Ferric Chloride	7705-08-0	2 mg/m^3	2 mg/m^3	2
	Water	7732-18-5	Not Established	Not Established	88
Sea Grass	Hydrochloric Acid	7647-01-0	5 ppm	5 ppm	45
	Cupric Chloride	7447-39-4	1 mg/m^3	1 mg/m^3	8
	Manganese Chloride	13446-34-9	10 mg/m^3	3 mg/m^3	1
	Water	7732-18-5	Not Established	Not Established	46
Shifting Sand	Hydrochloric Acid	7647-01-0	5 ppm	5 ppm	7
	Ferrous Chloride	7758-94-3	1 mg/m^3	1 mg/m^3	4
	Manganese Chloride	13446-34-9	3 mg/m^3	3 mg/m^3	3
	Cupric Chloride	7447-39-4	1 mg/m^3	1 mg/m^3	13
	Water	7732-18-5	Not Established	Not Established	73

4.0 FIRST-AID MEASURES

4.1 Description of Necessary First-Aid Measures:

a. Inhalation: Take precautions to ensure your own safety before attempting rescue. Wear appropriate personal protective equipment and use the 'buddy' system. Remove the victim to fresh air. If breathing has stopped, begin artificial respiration, or if the heart has stopped, begin cardiopulmonary resuscitation (CPR) immediately. Oxygen should be administered by a trained person. Ensure victim is completely at rest - allow no physical exertion. Symptoms may be delayed for up to 48 hours. Immediately transport victim to an emergency medical facility.

b. Ingestion: Never give anything by mouth if victim is rapidly losing consciousness, or is unconscious or is convulsing. Have victim rinse mouth thoroughly with water. DO NOT INDUCE VOMITING. Have victim drink 300 mL (10 oz.) of water. If milk is available, administer AFTER the water. If vomiting occurs naturally, have the victim lean forward to reduce risk of aspiration. Repeat administration of water. Immediately transport to emergency medical facility.

c. Skin Contact: Avoid direct contact. Wear impervious protective gloves if necessary. Immediately flush contaminated areas with lukewarm, gently running water for at least 20 minutes. Under running water, remove contaminated clothing, shoes, and leather goods such as watchbands and belts. Do not interrupt flushing - have emergency vehicle wait if necessary. Transport victim to emergency medical facility. Decontaminate clothing, shoes and leather goods before reuse or discarding.

d. Eye Contact: Immediately flush contaminated eye(s) with lukewarm, gently running water for at least 30 minutes while holding the eyelid(s) open. Take care not to rinse contaminated water into a non-affected eye. Neutral saline solution may be used for flushing if available. Do not interrupt flushing - keep emergency vehicle waiting if necessary. If irritation persists, repeat flushing. Transport victim to emergency medical facility.

e. General Comments: Provide general supportive measures (comfort, warmth, rest). Seek medical attention for all exposures except minor instances of inhalation of skin contact. First -aid procedures should be reviewed by appropriate personnel familiar with hydrochloric acid and its conditions of use in the workplace.

4.2 Indication of Immediate Medical Attention and Special Treatment Needed, If Necessary: Contact a Poison Control Center for additional treatment information.

5.0 FIRE-FIGHTING MEASURES

5.1 Suitable Extinguishing Media: Dry chemical, alcohol-resistant foam, or CO2

5.2 Flash Point (TCC): N/A

5.3 Flammable Limits (% Volume in Air for Solvents): LEL: Not Determined **UEL:** Not Determined

5.4 Special Protective Actions for Fire-Fighters:

Reactions with metals and water can liberate hydrogen gas and may form explosive mixture in the air. At high temperatures, toxic corrosive fumes of anhydrous gas may be emitted. Because fire may produce toxic thermal decomposition products, we a self-contained breathing apparatus (SCBA) with a full face-piece operated in pressure-demand or positive-pressure mode.

6.0 ACCIDENTAL RELEASE MEASURES

6.1 Personal Precautions, Protective Equipment and Emergency Procedures:

Evacuate unnecessary personnel from spill area and keep unprotected persons upwind. Wear appropriate personal protective equipment. Ventilate area. Vapor is heavier than air and will collect in low areas. Do not touch spilled hydrochloric acid.

6.2 Methods and Materials for Containment and Clean Up:

Spills may be absorbed using cement powder or fly ash and shoveled into containers. Neutralize spills with lime, sodium bicarbonate or crushed limestone and prevent runoff. Notify proper authorities if runoff should occur.

6.3 Environmental Precautions:

Implement spill control plan. Stop or reduce leak if safe to do so. Prevent from entering sanitary or storm sewers, waterways, or confined spaces. Use inert materials such as earth or sand to form a dike.

6.4 Remedial Measures:

Restrict access to area until completion of cleanup. Ensure cleanup is conducted by trained personnel only. Use all appropriate personal protective equipment. For small spills: absorb with neutralizing materials such as soda ash or lime and collect in sealed containers. Flush area with water. For large spills, contain and collect spilled material if possible. Notify government occupational health and safety and environmental authorities as per applicable regulations. In the United States, releases over 5,000 pounds must be reported to the National Response Center at 1-800-424-8802.

7.0 HANDLING AND STORAGE

7.1 Precautions and Safe Handling:
Prevent release of vapor or mist into workplace air. Ensure adequate ventilation. Have emergency equipment readily available. When diluting, slowly add acid to the water to avoid boiling or splattering. Keep containers closed when not in use. Wash face and hands thoroughly after handling and before eating, drinking or using tobacco products.

7.2 Conditions for Safe Storage, Including Any Incompatibilities:
Store in cool, dry, well-ventilated area, out of direct sunlight and away from heat sources. Store away from incompatible materials such as oxidizing materials, reducing materials, and strong bases. Keep storage area separate from populated work areas.

7.3 Special Precautions: Avoid breathing mist. Do not freeze.

7.4 Waste Disposal Method: Dispose of material in accordance with federal, state and local guidelines.

8.0 PROTECTION INFORMATION

8.1 Respiratory Protection: Seek professional advice prior to respirator selection and use. Follow OSHA respirator regulations (29 CFR 1910.134) and if necessary, wear an OSHA/NIOSH approved respirator. Select respirator on its suitability to provide adequate worker protection for given working conditions, level of airborne contaminations, and presence of sufficient oxygen. For emergency or non-routine operations (cleaning spills, reactor vessels, or storage tanks), wear an SCBA.

8.2 Ventilation: Provide general or local exhaust ventilation systems to maintain airborne concentrations below OSHA PELs (Sec.2). Local exhaust ventilation is preferred because it prevents contaminant dispersion into the work area by controlling it at its source.

8.3 Protective Clothing/Equipment: Wear chemically protective gloves, boots, aprons, and gauntlets to prevent prolonged or repeated skin contact.

8.4 Eye Protection: Wear protective eyeglasses or chemical safety goggles, per OSHA eye and face protection regulations (29 CFR 1910.133). Contact lenses are not eye protective devices. Appropriate eye protection must be worn instead of, or in conjunction with contact lenses.

8.5 Safety Stations: Make emergency eyewash stations, safety/quick drench showers, and washing facilities available in work area.

8.6 Contaminated Equipment: Separate contaminated work clothes from street clothes. Launder before reuse. Remove this material from your shoes and clean personal protective equipment.

8.7 Comments: Never eat, drink or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.

9.0 PHYSICAL AND CHEMICAL PROPERTIES

9.1 Appearance: Colored Liquid

9.2 Odor: Acrid Odor

9.3 Odor Threshold: Not Determined

9.4 pH: <1

9.5 Melting Point/Freezing Point: Melting Point=Not Determined; Freezing Point=Zero Degrees Celsius

9.6 Boiling Point: 108 Degrees Celsius

9.7 Flash Point: Not Applicable

9.8 Evaporation Rate: Not Determined

9.9 Flammability (Solid, Gas): Non-flammable under normal conditions

9.10 Upper/Lower Flammability or Explosive Limits: Not applicable

9.11 Vapor Pressure: Not Determined

9.12 Vapor Density: Not Determined

9.13 Relative Density (Specific Gravity): 1.22 (Water = 1)

9.14 Solubility: Completely Soluble in Water

9.15 Partition Coefficient: Not Determined

9.16 Auto Ignition Temperature: Not Applicable

9.17 Decomposition Temperature: Not Determined

9.18 Viscosity: 1.004 Centistokes (20 Degrees Celsius)

10.0 STABILITY AND REACTIVITY

10.1 Reactivity: Acid stain is stable at room temperature in closed containers under normal storage and handling conditions.

10.2 Chemical Stability: Stable

10.3 Conditions to Avoid: Heat, open flame, reactive metals and strong oxidizers

10.4 Incompatible Materials: Contact with common metals, including aluminum or magnesium, may produce hydrogen which may form explosive mixtures in the air.

10.5 Hazardous Decomposition Products: Thermal oxidative decomposition of acid stain can product toxic and hazardous gases including fumes of hydrogen chloride and oxides of copper.

10.6 Hazardous Polymerization: Hazardous polymerization cannot occur under normal temperatures and pressures.

11.0 TOXICOLOGICAL INFORMATION

11.1 Likely Routes of Exposure: Inhalation, ingestion, eyes and skin

11.2 Symptoms Related to the Physical, Chemical and Toxicological Characteristics: N/A

11.3 Delayed and Immediate Effects and Also Chronic Effects from Short and Long Term Exposure: The severity of damage depends on the duration of the exposure. In general, solutions and mists with a pH of 3 or less are a significant health concern. Contact with alkali liquids will generate heat. Contact with most metals will generate flammable hydrogen gas.

11.3.1 Effects of Short-Term (Acute) Exposure:

a. Inhalation: Vapor or mist in the 50 to 100 ppm range can cause severe nasal irritation, sore throat, choking, coughing and difficulty breathing. Prolonged exposures can cause burns and ulcers to the nose and throat. Severe exposures for a few minutes at 1000 to 2000 ppm can cause a life-threatening accumulation of fluid in the lungs called pulmonary edema. Symptoms of pulmonary edema such as shortness of breath may be delayed for 48 hours after exposure.

b. Skin Contact: Contact with liquid can cause irrigation and burns. Vapor or mist may cause redness, irritation and burns if contact is prolonged.

c. Eye Contact: Low concentrations of vapor or mist (10 - 35 ppm) can be immediately irritating and result in redness. Concentrated vapor, mist or splashed liquid can cause severe irritation, burns and permanent blindness.

d. Ingestion: Liquid can cause corrosive burns to mouth, throat, esophagus and stomach. Symptoms may include difficulty in swallowing, intense thirst, nausea, vomiting, diarrhea, and in severe cases, collapse and death. Small amounts of acid which enter the lungs during ingestion or vomiting (aspiration) can cause serious lung injury and death.

11.3.2 Effects of Long-Term (Chronic) Exposure:

Repeated and prolonged exposure to low concentrations of mist or vapor can cause discoloration and damage to tooth enamel, bleeding of the nose and gums, gastrointestinal symptoms, and chronic bronchitis and gastritis. Repeated exposure to low concentrations of liquid, mist or vapor can cause redness, swelling, sensitization, and pain (dermatitis). Metallic taste and garlic breath are signs of selenium absorption. No evidence of carcinogenicity in human studies. This product does not accumulate in the body.

11.3.3 Medical Conditions Aggravated By Exposure: Pre-existing respiratory and skin disorders.

11.4 Acute Toxicity Lethal Doses:

Ingredient Name	Acute Oral LD50	Acute Dermal LD50	Acute Inhalation LC50
Sodium Dichromate	No Data Available	No Data Available	No Data Available
Cupric Chloride	No Data Available	No Data Available	No Data Available
Manganese Chloride	Rat – 1454 mg/kg	No Data Available	No Data Available
Ferric Chloride	Rat – 900 mg/kg	No Data Available	No Data Available
Hydrochloric Acid	Rabbit – 900 mg/kg	Rabbit – >5010 mg/kg	Rat – 3124 ppm (1 hour)
Ferrous Chloride	Rabbit – 890 mg/kg	Rat – 498 mg/kg	No Data Available

12.0 ECOLOGICAL INFORMATION

12.1 Ecotoxicity: Moderate toxicity to aquatic life

Ingredient Name	Acute Toxicity to Fish	Acute Toxicity to Aquatic Invertebrates
Sodium Dichromate	LC50 (96 hr.) 31 mg/L – Fathead Minnow	No Data Available
Cupric Chloride	No Data Available	No Data Available
Manganese Chloride	No Data Available	No Data Available
Ferric Chloride	LC50 (96 hr.) 6mg/L – Striped Bass	EC50 (96 hr.) 15mg/L – Daphnia Magna
Hydrochloric Acid	LC50 (96 hr.) 282 mg/L – Mosquito Fish	EC50 (48 hr.) 100-300ppm – Shrimp (Salt Water)
Ferrous Chloride	No Data Available	No Data Available

12.2 Persistence and Degradability: No data available

12.3 Bioaccumulative Potential: Potential for bioaccumulation of metals

12.4 Mobility in Soil: Highly mobile in wet soil

12.5 Other Adverse Effects: None

13.0 DISPOSAL CONSIDERATIONS

13.1 Disposal Methods: Dispose of in accordance with federal, state and local regulations.

14.0 TRANSPORT INFORMATION

14.1 UN Number: UN 3264

14.2 UN Proper Shipping Name: Corrosive Liquid, Acidic, Inorganic, N.O.S., (Contains Hydrochloric Acid)

14.3 Transportation Hazard Class: 8

14.4 Packing Group, if Applicable: II

14.5 Marine Pollutant: Black, Desert Amber, and Coffee Brown Colors Only

15.0 REGULATORY INFORMATION

15.1 RCRA Hazardous Waste Number (40 CFR 261.33): Possibly D002 or D007

Not meant to be all-inclusive. Selected regulations presented.

Component	CAS No.	SARA 313	SARA 311/312
Hydrochloric Acid	7647-01-0	Yes	Yes
Manganese Chloride	13446-34-9	Yes	Yes
Sodium Dichromate	7798-12-0	Yes	Yes
Ferric Chloride	7705-08-0	No	Yes
Cupric Chloride	7447-39-4	Yes	Yes
Ferrous Chloride	7758-94-3	No	Yes

State Regulations: Consult individual state agency for further information.

California Prop. 65: This product contains chemical(s) known to the state of California to cause cancer and/or birth defects.

16.0 ADDITIONAL INFORMATION

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The regulatory information provided is not intended to be comprehensive. Other federal, state and local regulations may apply to this material.