SAFETY DATA SHEET

Section 1: COMPANY AND PRODUCT IDENTIFICATION

Company Name	Penguin Pottery LLC
Address	193 A St, Unit 42, Wilder, VT 05088
Emergency Contact	IN CASE OF EMERGENCY PLEASE CONTACT YOUR REGIONAL / LOCAL POISON CONTROL CENTER. 1-800-222-1222
Phone	603-200-3042
Email	support@penguinpottery.com
Website	www.penguinpottery.com
Product name	Penguin Pottery Glazes - Raku Series - Verdigris - Low Fire (16oz | 473ml)
Product use/description	Ceramic glaze
Product Identifier Codes	PP-GZ-RAKU-1503-16OZ
Restrictions on use	Non-Cosmetic Use: Not for ingestion or use in cosmetics. Food-Contact Limitation: Do not use on food-contact surfaces unless it has been fired to maturity. Form Limitation: Intended for use only in liquid form as supplied.
Regulatory Basis	OSHA Hazard Communication Standard (29 CFR 1910.1200), GHS classification

Section 2: HAZARDS IDENTIFICATION

Classification	Classification according to OSHA Hazard Communication Standard (29 CFR 1910.1200) and GHS Rev. 3. Not classified as hazardous under GHS. This product has been evaluated under the Labeling of Hazardous Art Materials Act (LHAMA, 16 CFR 1500) in accordance with ASTM D-4236 by a board-certified toxicologist, who determined that the product requires no acute or chronic hazard labeling.
Hazard statement	No signal word, hazard pictogram, or hazard statement is required for this product. Under reasonably foreseeable conditions of use as sold, the product is unlikely to produce skin, eye, or respiratory irritation. Avoid eye contact as a matter of good practice; see Section 4 for first-aid measures.
Signal word	None required in current form.
Precautionary statement	Avoid eye contact. Wash hands after handling. Avoid generating dust from dried residue. Use local exhaust ventilation if spraying.
Important Usage Instruction	This product is intended for use only in liquid form as supplied. Do not intentionally dry, sand, grind, or otherwise process dried residue into airborne dust. If product begins to dry out, reconstitute with water before use. Airborne dust from dried residue may contain respirable crystalline silica and should be avoided.
Pictogram(s) by GHS	None
Other Hazards	No hazards otherwise classified. Under reasonably foreseeable conditions of manipulation or use of the product as sold, this product is unlikely to produce a chronic toxicity hazard, including skin, eye, or respiratory irritation. As a matter of good work practice, avoid generating airborne dust from dried residue and avoid inhaling mist from spray applications.

Section 3: COMPOSITION / INFORMATION ON INGREDIENTS

Trade Secret Notice	Detailed formulation is proprietary information. The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret in accordance with 29 CFR 1910.1200(i).

Section 4: FIRST AID MEASURES

On inhalation	Move to fresh air if mist or spray causes irritation. Seek medical attention if symptoms persist.
On skin contact	Wash with soap and water. Remove contaminated clothing.
On eye contact	Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Get medical attention if irritation persists.
On ingestion	Rinse mouth. Do not induce vomiting. Get medical advice if unwell.
Acute/delayed symptoms	No acute or delayed symptoms are expected under reasonably foreseeable conditions of use of the product as sold. Chronic adverse health effects are unlikely except after long-term daily use, poor work practices, and poor hygiene.
Medical advice	Treat symptomatically.
Special treatment needed	None normally required.

Section 5: FIREFIGHTING MEASURES

Suitable extinguishing media	Product is not flammable. Use fire-extinguishing media appropriate for surrounding materials. Water spray, foam, dry chemical, CO2.
Unsuitable extinguishing media	None known
Specific hazards arising from the chemical	Product is water-based; not flammable. Combustion of organic components may produce CO, CO2.
Protective equipment for firefighters	Standard protective gear and SCBA if in enclosed space
Special precautions for fire fighters	Prevent runoff from entering drains or waterways
Will hazardous combustion occur?	No

Section 6: ACCIDENTAL RELEASE MEASURES

Personal precautions	Avoid inhalation of dust and contact with eyes. Use personal protective equipment as recommended in this section. Ensure adequate ventilation during cleanup.
Environmental precautions	Prevent significant releases into waterways
Methods for cleaning up	Contain and absorb with inert material. Collect into containers for disposal. Rinse area with water. Avoid creating dried dust during cleanup.
Recommended personal protective equipment	Gloves, safety glasses, and respiratory protection if dried dust is present.

Section 7: HANDLING AND STORAGE

Safe handling	This product is intended for use only in liquid form as supplied. Do not intentionally dry, sand, grind, or otherwise process dried residue into airborne dust. If product begins to dry out, reconstitute with water before use. Airborne dust from dried residue may contain respirable crystalline silica and should be avoided. Avoid eye contact. Use with adequate ventilation if spraying. Avoid drying residue on surfaces.
Safe storage	Keep container tightly closed. Store in cool, dry location. Protect from freezing and excessive heat.
Known incompatibilities	Strong acids/bases, strong oxidizers

Section 8: EXPOSURE CONTROL AND PERSONAL PROTECTION

Engineer Control	Ensure adequate ventilation when spraying. Occupational exposure limits for respirable crystalline silica: OSHA PEL 50 µg/m³ TWA, ACGIH TLV 25 µg/m³ TWA, NIOSH REL 50 µg/m³ TWA.

Respiratory Protection	Use local exhaust ventilation to control airborne mist or dust. Respiratory protection recommended if airborne dust or mist exceeds exposure limits for nuisance dust or crystalline silica (OSHA PEL).
Protective Gloves	Gloves are not required but can help prevent dry skin
Protective Glasses	Appropriate eye protection or safety glasses to keep mist out of eyes if spray application is used

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical state/appearance	Liquid slurry
Color	Varies by glaze
Odor	Slight / none
Odor threshold	Not determined
pH	7-9 (typical)
Boiling point/range	>100°C (>212°F)
Freezing point/range	0°C (32°F)
Flash point	Not applicable
Evaporation rate	Not determined
Vapor density	Not determined
Solubility(ies)	Dispersible in water
Vapor pressure	Not determined
Relative density	1.4-1.7 (typical)
Viscosity	Not determined
Partition coefficient (n-octanol/water)	Not determined
Explosive properties	None
Flammability (solid, gas)	Not applicable
Flammability limit in air (upper/lower)	Not determined
Autoignition temperature	Not determined
Decomposition temperature	Not determined

Section 10: STABILITY AND REACTIVITY

Chemical stability	Stable under normal conditions
Conditions to avoid	Freezing, excessive heat
Incompatible materials	Strong acids/bases, strong oxidizers
Hazardous decomposition products	CO, CO2 from organics
Possibility of hazardous reactions	None known
Reactivity	Non-reactive under normal use
Hazardous polymerization	Will not occur

Section 11: TOXICOLOGICAL INFORMATION

Information on likely routes of exposure	Eye contact, skin contact, inhalation of mist during spraying.
Eye contact - serious eye damage or irritation	May cause mild irritation.
Skin contact - skin corrosion, sensitization or irritation	May cause mild irritation on prolonged contact

Ingestion - carcinogenicity/aspiration hazard	Low toxicity; ingestion may cause gastrointestinal discomfort
Inhalation - respiratory sensitization/toxicity	Mist may cause mild irritation; dried dust may cause chronic lung effects if inhaled over prolonged periods
Symptoms related to the physical chemical and toxicological characteristics	No symptoms are expected under reasonably foreseeable conditions of use of the product as sold. Transient irritation may occur from direct eye contact or from inhaling mist during spray application; use adequate ventilation when spraying and avoid generating airborne dust from dried residue as a matter of good work practice.
Information on toxicological effects	No acute or chronic toxicological effects are expected from use of the product as sold. A LHAMA toxicological risk assessment performed in accordance with ASTM D-4236 concluded that the product is unlikely to produce a chronic toxicity hazard, including skin, eye, or respiratory irritation.
Delayed or immediate effects	Under reasonably foreseeable conditions of manipulation or use of the product as sold, no delayed or immediate adverse health effects are expected. Chronic adverse health effects are unlikely except after long-term daily use, poor work practices, and poor hygiene.
Germ cell mutagenicity	No data available
Specific target organ toxicity (single exposure)	No data available
Specific target organ toxicity (repeated exposure)	No data available
Chemicals listed on NTP, IARC or OSHA as a carcinogen	Some components are listed by regulatory agencies as carcinogens; however, a LHAMA toxicological risk assessment performed in accordance with ASTM D-4236 determined that these components do not pose a cancer risk as formulated in this product.
Additional information	These water-based, premixed products are non-toxic during recommended use. As with any silica-containing material, do not process dried residue into airborne dust, and avoid prolonged inhalation of respirable dust as a matter of good work practice.

Section 12: ECOLOGICAL INFORMATION (NON-MANDATORY)

Ecotoxicity	No components are expected to be acutely hazardous to aquatic life at use concentrations.
Persistence and degradability	Inorganic components are stable
Bioaccumulative potential	Low
Mobility in soil	Limited mobility; settles in sediment
Other adverse effects	Avoid uncontrolled releases

Section 13: DISPOSAL CONSIDERATIONS (NON-MANDATORY)

Disposal instructions	Dispose of in accordance with local, regional, and national regulations.
Local disposal regulations	Follow municipal waste disposal guidelines
Hazardous waste code	Not applicable.
Contaminated packaging	Empty containers may contain residue; rinse before disposal or recycling.
Waste residues	Collect and dispose of non-hazardous waste unless contaminated.

Section 14: TRANSPORTATION INFORMATION (NON-MANDATORY)

UN/ID number (DOT)	Not regulated
UN/ID number (IMDG)	Not regulated
UN/ID number (IATA)	Not regulated
Proper shipping name	Not applicable
Transport hazard class (DOT)	N/A
Transport hazard class (IMDG)	N/A

Transport hazard class (IATA)	N/A
Packing group (DOT)	N/A
Packing group (IMDG)	N/A
Packing group (IATA)	N/A
Environmental provisions	No data
Special precautions	None
Transport in bulk according to Annex II of MARPOL 73/78 and IBC Code	No data
Emergency Response Guide Number	No data
Pictograms (US)	None
Pictograms (IATA)	None
Pictograms (IMDG: Marine Pollutant)	None

Section 15: REGULATORY INFORMATION (NON-MANDATORY)

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)	All components are listed or exempt
CERCLA (Superfund) reportable quantity (lbs.) (40 CFR 302.4)	Not regulated
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)	No component of this product is present in a form or concentration that triggers an OSHA specifically regulated substance standard (29 CFR 1910.1001-1050) for the product as supplied.
Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A)	Not regulated
SARA 304 Emergency release notification	Not regulated
SARA 311/312 (40 CFR 370) Hazardous Chemical	Not a hazardous chemical under SARA 311/312 (40 CFR 370). No acute or chronic hazard categories apply to the product as supplied.
SARA 313 (TRI reporting)	No reportable ingredients
Drug Enforcement Administration (DEA) (21 CFR 1308.11-15)	Not regulated
Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List	Not regulated
Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)	Not regulated
Safe Drinking Water Act (SDWA)	Not regulated
Canadian Domestic Substances List (DSL)	Not regulated
TSCA	This product is manufactured in compliance with all provisions of the Toxic Substances Control Act, 15 U.S.C. 2601 et. Seq.
FDA	21 CFR 175.105
SARA/Title III	This product does not contain any substances at or above the reported threshold under Section 313, based on available data.
Conforms to ASTM D-4236	Conforms to ASTM D-4236. The formulation of this product has been reviewed by a board-certified toxicologist in accordance with ASTM D-4236 and the Labeling of Hazardous Art Materials Act (LHAMA, 16 CFR 1500), who determined that no acute or chronic health hazard labeling is required. The evaluation is on file with the producer and is available to the U.S. Consumer Product Safety Commission upon request.

California Proposition 65 Warning	No California Proposition 65 warning is required for this product. The Proposition 65 listing for crystalline silica applies to airborne particles of respirable size, which this water-borne liquid product does not generate as supplied and used as directed.
HMIS III Rating	Health=1, Flammability=0, Reactivity=0

Section 16: OTHER INFORMATION

Usage Warning	This product is intended for use only in liquid form as supplied. Do not intentionally dry, sand, grind, or otherwise process dried residue into airborne dust. If product begins to dry out, reconstitute with water before use. Airborne dust from dried residue may contain respirable crystalline silica and should be avoided.
Disclaimer	Prepared according to OSHA HCS 2012. The recommendations and information contained in this SDS are compiled from sources believed to represent the most current information available when the SDS was prepared. However, the manufacturer / distributor of this product does not provide any warranty, guarantee of representation as to the correctness or sufficiency of this information. If this material is used in large amounts and/or an unusual manner, the user is obliged to determine what safety measures are appropriate, including the applicable and relevant workplace and environmental regulations pertaining to handling, use and disposal.
Abbreviation: ACGIH	American Conference of Governmental Industrial Hygienists
Abbreviation: ASTM	American Society for Testing and Materials
Abbreviation: CAS	Chemical Abstract Service
Abbreviation: CFR	Code of Federal Regulations
Abbreviation: DOT	Department of Transportation
Abbreviation: GHS	Globally Harmonized System of Classification and Labelling of Chemicals
Abbreviation: HMIS	Hazardous Materials Identification System
Abbreviation: IARC	International Agency for Research on Cancer
Abbreviation: NTP	National Toxicology Program
Abbreviation: OSHA	Occupational Safety and Health Administration
Abbreviation: PEL	Permissible Exposure Limit (set by OSHA)
Abbreviation: SDS	Safety Data Sheet
Abbreviation: TSCA	Toxic Substances Control Act
Abbreviation: TWA	Time-Weighted Average (typically over 8 hours)
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