



SAFETY DATA SHEET

PRODUCT NAME: UNDERGLAZES

1 – IDENTIFICATION OF MATERIAL AND SUPPLIER

SUPPLIER: _____

ADDRESS: _____

TELEPHONE: _____

FACSIMILIE: _____

EMERGENCY: _____

WEB SITE: _____

E-MAIL: _____

SYNONOMYS: CHRYSANTHOS UNDERGLAZES

UG001, UG005, UG009, UG013, UG017, UG021, UG025, UG029, UG033, UG037, UG041,
UG045, UG049, UG053, UG057, UG061, UG065, UG069, UG071, UG073, UG077, UG081,
UG085, UG087, UG089, UG093, UG097, UG101, UG105, UG109, UG113, UG117, UG121,
UG125, UG129, UG133, UG137, UG141, UG145, UG149, UG153, UG157, UG161, UG165,
UG169, UG173, UG177, UG181, UG183, UG185, UG189, UG193, UG197, UG199, UG201,
UG204, UG206, UG209, UG213, UG216

USES: CERAMIC UNDERGLAZES

ISSUED DATE: Tuesday, 2 May 2023

2 – HAZARDS IDENTIFICATION

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO EC REGULATION 1272/2008 (CLP)

Each underglaze is a mixture of ceramic material containing, water, non-leaded frits, clay, and other minerals and color pigments. Contains potential carcinogens: Crystalline silica (quartz), as an inhalation hazard, may be present if:

- a) Unfired, dried glaze is excessively handled and allowed to create dust.
- b) Mist is present after spray application.

A few pigments may contain small amounts of zirconium encapsulated cadmium and other metals. Other ingredients present have no known acute toxicity.

Due to the nature of the mixture and under normal usage as directed, silica is not deemed to be a breathing hazard.

GHS LABEL ELEMENTS:

HAZARD STATEMENTS: None allocated

PRECAUTIONARY STATEMENTS: None allocated.



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3 – COMPOSITION / INFORMATION ON INGREDIENTS*

ENTITY*	CAS NO	CLASSIFICATION	%#
SILICA	14808-60-7	STOT RE 2 H373; STOT RE 1 H372; Carc. 1A H350	0-13.4%
ZINC OXIDE	1314-13-2	Aquatic Acute 1 H400, Aquatic Chronic 1 H410	0-0.2%
ZIRCONIUM SILICATE	10101-52-7	Eye Irrit. 2 H319, Skin Irrit. 2 H315	0-9%

* The remaining ingredients are not listed as they are either not classified as hazardous or fall below GHS cut off levels.

The concentrations shown are maximum across all products.

4 – FIRST AID MEASURES

EYE:	May cause irritation. Flush eyes with large quantities of water for at least 15 minutes. If irritation persists after washing, contact a doctor.
INHALED:	May cause irritation. Remove from exposure.
SKIN:	May cause irritation. Wash skin with soap and water.
SWALLOWED:	Contact a doctor. Do not induce vomiting.
ADVICE TO DOCTOR:	Treat symptomatically.

5 – FIRE FIGHTING MEASURES

FLAMMABILITY:	Non Flammable.
FIRE & EXPLOSION:	No fire or explosion hazard exists.
EXTINGUISHING:	Use an extinguishing agent suitable for the surrounding fire.
HAZCHEM CODE:	None allocated.

6 – ACCIDENTAL RELEASE MEASURES

SPILLAGE:	Use personal protection equipment. Contain spillage. Uncontaminated material may be recovered and re-used. Contaminated material to be covered / absorbed with non-combustible absorbent material (vermiculite, sand, or similar), collect and place in suitable containers for disposal.
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7 – STORAGE AND HANDLING

STORAGE:	Store in a cool, dry, well ventilated area, removed from oxidizing agents, acids and foodstuffs. Ensure that containers are adequately labeled, protected from physical damage, and sealed when not in use.
HANDLING:	Before using carefully read the product label. Use of safe practices is recommended to avoid eye or skin contact and inhalation. Observe good



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personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE STANDARDS:

INGREDIENT	TWA		STEL		ACGIH TLV	
	ppm	mg/m ³	ppm	mg/m ³	ppm	mg/m ³
ZIRCONIUM SILICATE (as Zr)	-	5	-	10	-	5
SILICA	-	0.1	-	-	-	0.1
ZINC OXIDE	-	10	-	-	-	2

Remaining main glaze ingredients do not have formal Exposure Limits. Some pigments contain metals that have exposure limits (eg Co, Cr, Mn) but are used in low levels. These glazes are non-hazardous liquid mixtures of ceramic materials containing, water, non-lead frits, clay, and other minerals and color pigments. These mixtures have no TWA or TLV.

BIOLOGICAL LIMITS: No biological limits allocated.

ENGINEERING CONTROLS: Avoid inhalation when spraying. Use in well ventilated area. Where an inhalation risk exists, mechanical extraction ventilation is recommended. Maintain vapor levels below the recommended exposure standard.

PPE

Eye / Face

Wear appropriate eye protection / safety glasses to keep mist out of eyes if spray application is used.

Hands

Not normally needed.

Body

Wear appropriate clean, protective clothing such as, but not limited to, overalls, smocks, and aprons.

Respiratory

Use a NIOSH approved respirator if spray application is used.

9 – PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	Viscous Colored liquid
ODOUR:	Negligible
BOILING POINT:	N/A
MELTING POINT:	> 400°C
VAPOUR PRESSURE:	NOT AVAILABLE
SPECIFIC GRAVITY:	1.2 – 1.45 @ 25°C
FLASH POINT:	NOT RELEVANT
FLAMMABILITY LIMITS:	NON FLAMMABLE
SOLUBILITY IN WATER:	Negligible
VISCOSITY:	No data
pH:	7.0 – 8.5
% VOLATILES	7 – 14%
EVAPORATION RATE	NOT AVAILABLE
UPPER EXPLOSION LIMIT	NOT RELEVANT
LOWER EXPLOSION LIMIT	NOT RELEVANT

10 – STABILITY AND REACTIVITY



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REACTIVITY: None known.

CHEMICAL STABILITY: Stable.

CONDITIONS TO AVOID: Fumes from firing in kiln; Mist created from spray application. Avoid contact with incompatible substances.

INCOMPATIBLE MATERIAL: None known.

HAZARDOUS DECOMPOSITION: None known.

HAZARDOUS REACTIONS: None known.

11 – TOXICOLOGICAL INFORMATION

HEALTH HAZARD SUMMARY: Under normal conditions of use, adverse health effects are not anticipated. Due to the form of the products and low volatility, an inhalation hazard is not anticipated unless products are heated or sprayed.

These mixtures contain silica, a known carcinogen. Inhalation is the route of entry into the body that can lead to the development of Silicosis. These water-based, premixed products should be non-toxic during recommended use. Some of the pigments may contain small amounts of various forms of metals (Sn, Mn, Ti, Zr, V, Fe, Co, Cr, Ni, Cd, Pr), some of which are considered carcinogenic. The metals in pigments may be in form of frits, spinel or formed from high temperature calcination that may have a different bioavailability than the metal itself. Silica and pigments in the glaze should be non-toxic during recommended use.

Zinc Oxide is not listed as a suspected/confirmed carcinogen by ACGIH, IARC, NTP, SHA. Slightly hazardous in case of skin contact (irritant), of ingestion, of inhalation.

EYE: Low irritants. Contact may result in irritation, lacrimation and redness.

INHALATION: Exposure considered unlikely. Due to the form of the products and nature of use, an inhalation hazard is not anticipated with normal use.

SKIN: Low irritants. Prolonged or repeated contact may result in mild irritation.

INGESTION: Low toxicity. Ingestion is considered unlikely due to the form of the products. However ingestion via hand-mouth transfer may result in gastrointestinal irritation, nausea and vomiting. Maintain good personal hygiene standards.

TOXICITY DATA:

QUARTZ (SILICA CRYSTALLINE) (14808-60-7)	
LCLo (inhalation)	300 µg/m ³ /10 years (human)
TCLo (inhalation)	16,000,000 particles/ft ³ /8 hrs/17.9 years (human fibrosis)

ZINC OXIDE	
LD50 oral (rat) - 7.950 mg/kg	
LC50 Inhalation (rat) - 2.500 mg/m ³	



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ZIRCONIUM SILICATE

No data available.

12 – ECOLOGICAL INFORMATION

ENVIRONMENT:

Products of Biodegradation: Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: Insoluble in water. (can be separated from aqueous systems by sedimentation and/or filtration techniques). Predicted to have low mobility in soil.

Other products, short term degradation unlikely. However, long term degradation may occur.

13 – DISPOSAL CONSIDERATIONS

WASTE DISPOSAL:

For small amounts absorb with sand, vermiculite or similar and dispose of to an approved landfill site. Contact the manufacturer for additional information if larger amounts are involved.

LEGISLATION:

Dispose of in accordance with relevant local legislation.

14 – TRANSPORTATION

NOT CLASSIFIED AS DANGEROUS GOODS BY THE CRITERIA OF THE ADG CODE.

	LAND TRANSPORT (ADG)	SEA TRANSPORT (IMDG/IMO)	AIR TRANSPORT (IATA/ICAO)
UN NUMBER	None Allocated	None Allocated	None Allocated
PROPER SHIPPING NAME	Non-Dangerous Goods	Non-Dangerous Goods	Non-Dangerous Goods
DG CLASS / DIVISION	None Allocated	None Allocated	None Allocated
SUBSIDIARY RISKS	None Allocated	None Allocated	None Allocated
PACKING GROUP	None Allocated	None Allocated	None Allocated
HAZCHEM CODE	None Allocated	None Allocated	None Allocated

15 – REGULATORY INFORMATION

INVENTORY LISTINGS:

AUSTRALIA:

All components are listed on AICS or are exempt.

USA:

Silica is listed on IARC, OSHA and NTP carcinogen list.

All ingredients are on TSCA inventory.

California Proposition 65 - Proposition 65: Silica (Quartz) is listed on the carcinogen list.

CANADA:

All ingredients are on DSL inventory.

WHMIS – Not controlled.



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EUROPE:

All ingredients are on EC inventory.

CHEMICAL SAFETY ASSESSMENT: USA:

Conforms to ASTM D 4236 This material has been evaluated under the provisions of LHAMA (Labeling of Hazardous Art Material Act). This product is judged to be non-toxic and non-flammable under proposed use conditions. No special warning is required under the provisions of LHAMA or California Proposition 65 during use.

EU:

Does not require a hazardous warning label according to the EU guidelines/Dangerous Chemicals Ordinance.

16 – OTHER INFORMATION

ADDITIONAL INFORMATION:

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:

The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment made.

HEALTH EFFECTS FROM EXPOSURE:

It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

ABBREVIATIONS:

AICS	Australian Inventory of Chemical Substances
ACGIH	American Conference of Governmental Industrial Hygienists
CAS #	Chemical Abstracts Service Number
CNS	Central Nervous System
EC No.	EC No – European Community Number
GHS	Globally Harmonized System
IARC	International Agency for Research on Cancer
LD50	Lethal Dose, 50% / Median Lethal Dose
mg/m ³	Milligrams per cubic meter
PEL	Permissible Exposure Limit
pH	Acidity < 7 – Alkalinity > 7 measure
ppm	Parts Per Million
REACH	Regulation on Registration, Evaluation, Authorization and Restriction of Chemicals
STOT-RE	Specific target organ toxicity (repeated exposure)
STOT-SE	Specific target organ toxicity (single exposure)
SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons
TLV	Threshold Limit Value
TWA/OEL	Time Weighted Average of Occupational Exposure Limit
STEL	Short Term Exposure Limit
TSCA	Toxic Substances Control Act



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REVISION HISTORY:

Revision	Description
1.0	Creation
1.1	Updated hazards information

REPORT STATUS:

The report has been by Chrysanthos Color Company Limited – China. The information provided on safety and handling represents the current knowledge at the time of writing. We should be contacted directly for further clarification regarding any aspect of the product if required.

The SDS has been prepared with all due care to include accurate and up-to-date information. We do not however provide any warranty as to accuracy or completeness. As far as lawfully possibly, Chrysanthos Color Company Limited – China accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained herein.

PREPARED BY:

Tony Crisafi
Chrysanthos Color Company Limited
2nd Floor, Building B1,
No 19 Gaoxinxishi Road,
Nanning High Tech Zone, Nanning,
Guangxi 530003, China.
Tel/Fax: +86 (771) 231 0885
Mob: +61 402 830 337
Email: info@chrysanthos.com
Web: www.chrysanthos.com

End of SDS