

1. COMPANY AND PRODUCT IDENTIFICATION



Duncan Enterprises
 5673 East Shields Avenue,
 Fresno, CA 93727
 559-291-4444
 559-291-9444 (Fax)
www.duncan.com

EMERGENCY TELEPHONE NUMBERS

Health Emergencies:
 559-291-4444 7:00 am – 3:30 pm PST
Spill and Off-Hour Health Emergencies:
 800-424-9300 U.S. and Canada;
 703-527-3887 Outside U.S. and Canada (Collect)

Product Name: Duncan OG 801 Bright Gold
Product Use/Description: Ceramic Overglaze
Restrictions on use: None known.

2. HAZARDS IDENTIFICATION

Classification:	Flam. Liq. 2; Skin Sens. 1; Skin Irrit. 2; Aquatic Acute 3; Aquatic Chronic 3
Hazard Statement:	H225 - Highly flammable liquid and vapor. H315 - Causes skin irritation. H317 - May cause an allergic skin reaction. H402 - Harmful to aquatic life. H412 - Harmful to aquatic life with long lasting effects.
Other Hazards:	None.
Signal Word:	Danger
Precautionary Statement:	P210 - Keep away from heat/sparks/open flames/ hot surfaces. No smoking. P241 - Use explosion-proof electrical/ventilating/lighting/equipment. P261 - Avoid breathing dust/fumes/gas/mist/vapors/ spray. P280 - Wear protective gloves/eye protection/face protection. P240 - Ground/bond container and receiving equipment. P233 - Keep container tightly closed. P242 - Use only non-sparking tools. P273 - Avoid release to the environment. P243 - Take precautionary measures against static discharge. P264 - Wash thoroughly after handling. P272 - Contaminated work clothing must not be allowed out of the workplace. P303+P361+P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing .Rinse skin with water/shower. P321 - Specific treatment (see on the label). P363 - Wash contaminated clothing before reuse. P333+P313 - If skin irritation or rash occurs: Seek medical advice/attention. P370+P378 - In case of fire: Use for extinction: CO ₂ , powder or water spray. P362+P364 - Take off contaminated clothing and wash it before reuse. P403+P235 - Store in a well-ventilated place. Keep cool. P501 - Dispose of contents/container in accordance with local /regional /national / international regulations.
Pictogram(s) by GHS:	  GHS02 GHS07

3. COMPOSITION / INFORMATION ON INGREDIENTS

Detailed formulation is proprietary information. Products are made by physical manipulation and chemical reaction from the ingredients. The chemical ingredients may not exist as the original formula in final products.

Reportable hazardous ingredients (if applicable):



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Substance/Composition:	CAS Number:	*Percentage/Range:
Aurio(1+) 2,6,6-trimethylbicyclo [3.1.1]heptanethiolate	68365-87-7	10 – <25%
Isobutyl acetate	110-19-0	10 – <25%
Cyclohexanol	108-93-0	10 – 25%
Formaldehyde, polymer with 4-(1,1,3,3-tetramethylbutyl)phenol	26678-93-3	10 – 25%
Iso-bornyl acetate	125-12-2	5 – <10%
Cyclohexanone	108-94-1	5 – <10%
Xylene, mixture of isomers	1330-20-7	2.5 – 5%
Benzaldehyde	100-52-7	1 – <2.5%
Biphenyl	92-52-4	1 – <2.5%
Ethyl Acetate	141-78-6	1 – <2.5%
Polymerised rosin	65997-05-9	1 – 2.5%
Bismuth octoate	67874-71-9	0.5 - 1%
1,2-dichlorobenzene	95-50-1	0.25 - <0.5%
Turpentine oil	8006-64-2	0.1 - <0.5%
Pentyl acetate	628-63-7	0.1 - <0.5%

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

4. FIRST AID MEASURES

General Advice:	Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
On Inhalation:	If inhaled, seek fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. In case of unconsciousness, place patient stably in side position for transportation.
On Skin Contact:	Remove contaminated clothing and wash skin with soap and water. Wash or clean clothing before reuse.
On Eye Contact:	Rinse opened eye for several minutes under running water.
On Ingestion:	If symptoms persist, consult a doctor.
Acute/Delayed Symptoms:	No further relevant information available.
Medical Advice:	No further relevant information available.

5. FIRE FIGHTING MEASURES

Extinguishing Media	
Suitable extinguishing media:	CO ₂ , sand, extinguishing powder.
Unsuitable extinguishing media:	Water, water with full jet.
Protection of Firefighters	
Specific hazards arising from the chemical:	No further relevant information available.
Protective equipment for firefighters:	Wear full firefighting gear and SCBA.
Will hazardous combustion occur?:	Will not occur.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions:	Wear protective equipment. Keep unprotected persons away.
Environmental Precautions:	Do not allow product to reach sewage systems or any water course. Inform respective authorities in case of seepage into water course or sewage system.
Methods for Cleaning Up:	Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). Ensure adequate ventilation. Dispose of contaminated material as waste according to section 13.
Recommended Personal Protective Equipment:	See Section 8 of this SDS and Section regarding safe handling.



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7. HANDLING AND STORAGE

Safe Storage:	No special requirements. Keep receptacle tightly sealed.
Safe Handling:	Ensure good ventilation/exhaustion at the workplace. Prevent formation of aerosols. Keep ignition sources away – Do not smoke. Protect from heat. Protect against electrostatic charges.
Known Incompatibilities:	None known.

8. EXPOSURE CONTROL AND PERSONAL PROTECTION

Occupational Exposure Limits: The following constituents are the only known ingredients to have a PEL, TLV or REL exposure limit. There is no PEL established for this mixture. Recommend monitoring based upon the components in the mixture.

Chemical Name	ACGIH TLV Short / Long Term Values	OSHA PEL Long-term Value	NIOSH REL Long-term Value
Isobutyl acetate	172 mg/m ³ , 150 ppm / 238 mg/m ³ , 50 ppm	700 mg/m ³ , 150 ppm	700 mg/m ³ , 150 ppm
Cyclohexanol	Skin (long-term): 206 mg/m ³ , 50 ppm	200 mg/m ³ , 50 ppm	Skin: 200 mg/m ³ , 50 ppm
Xylene, mixture of isomers	651 mg/m ³ , 150 ppm / BEI: 434 mg/m ³ , 100 ppm	435 mg/m ³ , 100 ppm	435 mg/m ³ , 100 ppm; short-term: 655 mg/m ³ , 150 ppm
Biphenyl	1.3 mg/m ³ , 0.2 ppm	1 mg/m ³ , 0.2 ppm	1 mg/m ³ , 0.2 ppm
Ethyl Acetate	1440 mg/m ³ , 400 ppm	1400 mg/m ³ , 400 ppm	1400 mg/m ³ , 400 ppm
1,2-Dichlorobenze	301 mg/m ³ , 50 ppm / 150 mg/m ³ , 25 ppm	300 mg/m ³ , 50 ppm	300 mg/m ³ , 50 ppm
Turpentine, oil	112 mg/m ³ , 20 ppm	560 mg/m ³ , 100 ppm	560 mg/m ³ , 100 ppm
Pentyl Acetate	532 mg/m ³ , 100 ppm / 266 mg/m ³ , 50 ppm	525 mg/m ³ , 100 ppm	525 mg/m ³ , 100 ppm

Appropriate Engineering Controls:

The application of this product requires well exhausted firing kilns and efficient ventilation of working areas.

Individual Protection measures, such as PPE (Personal Protective Equipment):

Personal Protection Equipment:	
Respiratory Protection:	Not required.
Eye Protection:	Tightly sealed goggles.
Hand Protection:	Nitrile gloves or chemical resistant gloves.
Skin Protection:	Nitrile gloves or chemical resistant gloves.
Thermal Protection:	No data.
General Safety and Hygiene Measures:	Keep away from foodstuffs, beverages and feed. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Avoid contact with the eyes and skin.
Further Information:	The lists that were valid during the creation were used as basis.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State/Appearance:	Fluid
Color:	According to product specification.
Odor:	Characteristic
Odor Threshold:	Not determined.
pH:	Neutral
Boiling Point/Range:	100°C (212°F)
Melting Point/Range:	Undetermined.
Flash Point:	21°C (70°F (ISO 3679)
Evaporation Rate:	Not determined.
Vapor Density:	Not determined.
Solubility(ies):	Not miscible or difficult to mix.
Vapor Pressure:	20 hPa (15 mm Hg)



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Relative Density:	Not determined.
Viscosity:	Not determined.
Partition Coefficient (n-octanol/water), if applicable:	Not determined.
Explosive Properties:	Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
Explosion Limits: Upper / Lower	2.0 Vol% / 11.2 Vol %
Flammability: (Solid, gas)	N/A
Flammability Limit in Air: Upper/Lower	N/A
Autoignition temperature:	Product is not self-igniting, but has an ignition temperature of 290 °C (554°F).
Decomposition temperature:	Not determined.

10. STABILITY AND REACTIVITY

Chemical Stability:	No data.
Conditions to Avoid:	No further relevant information available.
Incompatible Materials:	No further relevant information available.
Hazardous Decomposition Products:	No dangerous decomposition products known.
Possibility of Hazardous Reactions:	No dangerous reactions known.
Reactivity:	No further relevant information available.
Hazardous polymerization:	No data.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure:

Eye Contact –Serious Eye Damage or Irritation	No irritating effect.
Skin Contact – Skin Corrosion, Sensitization or Irritation:	Irritant to skin. Sensitization possible through skin contact.
Ingestion – Carcinogenicity/Aspiration Hazard:	No relevant data available.
Inhalation – Respiratory Sensitization/Toxicity:	Irritant to mucous membranes.
Symptoms related to the physical chemical and toxicological characteristics:	No relevant data available.
Information on toxicological effects:	This material, under reasonable handling or use, should not cause personal injury or substantial illness, nor would it be expected to be toxic, corrosive or a strong sensitizer by oral, dermal or inhalation routes of exposure. ¹
Delayed or Immediate effects:	No relevant data available.
Germ Cell Mutagenicity:	No relevant data available.
Specific target organ toxicity (single exposure):	No relevant data available.
Specific target organ toxicity (repeated exposure):	No relevant data available.
Chemicals listed on NTP, IARC or OSHA as a Carcinogen?:	IARC: Cyclohexanone (108-94-1), Xylene, mixture of isomers (1330-20-7), 1,2-dichlorobenzene (95-50-1)

1-As defined in the FHSA Regulations (16CFR 15000.3 (b) (5), (8), (9) and the Canadian Hazardous (toys) Regulation (Toxicological Hazards – Schedule I and II)/CCCR 2001.

Chemical Name:	Oral LD50	Dermal LD50	Inhalation LC50
Cylohexanol	2060 mg/kg (rat)	-	-
Cyclohexanone	1900 mg/kg (rat)	948 mg/kg (rabbit)	8000 mg/l (rat)
Xylene	8700 mg/kg (rat)	2000 mg/kg (rabbit)	6350 mg/l (rat)
Benzaldehyde	1300 mg/kg (rat)	-	-
Biphenyl	3280 mg/kg (rat)	-	-
Ethyl acetate	4935 mg/kg (rabbit)	-	1600 mg/l (rat)
1,2-dichlorobenzene	500 mg/kg (rat)	-	-




12. ECOLOGICAL INFORMATION (NON-MANDATORY)

Ecotoxicity and effects:	Aquatic Toxicity: Harmful to fish and to aquatic organisms.	
	108-94-1: Cyclohexanone: Oral LC50/96 h (dynamic): 527 mg/L (fish) LC50/48 h: 536 mg/L (fish) EC 50/48 h: 820 mg/L (daphnia)	92-52-4: Biphenyl: Oral LC50/48 h: 2.1 mg/L (daphnia)
Persistence and degradability:	No further relevant information available.	
Bioaccumulative potential:	No further relevant information available.	
Aquatic / Terrestrial warnings:	No further relevant information available.	
Mobility in soil:	No further relevant information available	
Other adverse effects:	No further relevant information available	

13. DISPOSAL CONSIDERATIONS (NON-MANDATORY)

Disposal instructions:	Must not be disposed of together with household garbage. Do not allow products to reach sewage system.
Local disposal regulations:	No relevant data available.
EPA waste code(s):	No relevant data available.
Contaminated packaging:	Disposal must be made according to official regulations.

14. TRANSPORTATION INFORMATION (NON-MANDATORY)

	DOT	IMDG	IATA
UN/ID number:	UN1263	UN1263	UN1263
Proper shipping name:	Paint	Paint	Paint
Transport hazard class:	3 Flammable Liquids 	3 Flammable Liquids 	3 Flammable Liquids 
Packing group (if applies):	II	II	II
Environmental Provisions:	Not a marine pollutant	Not a marine pollutant	Not a marine pollutant
Special Precautions: Warning: Flammable liquids	Danger code (Kemler): 33	Segregation groups: Liquid halogenated hydrocarbons	Stowage Category: B
Transport in bulk according to Annex II of MARPOL 73/78 and IBC Code	Not applicable.		
Emergency Response Guide Number:	EmS-No: F-E, S-E		
Transport / Additional information:			
DOT Quantity limitations: On passenger aircraft/rail: 5 L On cargo aircraft only: 60 L	IMDG: Limited quantities (LQ): 5 L Excepted quantities (EQ): -Code: E2 -Maximum net quantity per inner packaging: 30 ml -Maximum net quantity per outer packaging: 500 ml		

15. REGULATORY INFORMATION (NON-MANDATORY)

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D):		
68365-87-7	aurio(1+) 2,6,6-trimethylbicyclo[3.1.1]heptanethiolate	
110-19-0	isobutyl acetate	
26678-93-3	formaldehyde, polymer with 4-(1,1,3,3 tetramethylbutyl)phenol	



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108-93-0	cyclohexanol				
125-12-2	iso-bornyl acetate				
108-94-1	cyclohexanone				
1330-20-7	xylene, mixture of isomers				
65997-05-9	polymerised rosin				
100-52-7	benzaldehyde				
92-52-4	biphenyl				
141-78-6	ethyl acetate				
67874-71-9	bismuth octoate				
	Reodorant # 275				
95-50-1	1,2-dichlorobenzene				
8006-64-2	Turpentine, oil				
7704-34-9	sulphur				
61788-69-0	Chromium naphthenate				
76-22-2	bornan-2-one				
628-63-7	pentyl acetate				
8000-28-0	lavender oil				
78-70-6	Linalool				
	cellulose, ethyl ether				
8000-41-7	terpinyl acetate				
8000-41-7	terpineol				
507-70-0	Borneol				
78-59-1	isophorone				
CERCLA (Superfund) reportable quantity (lbs.) (40 CFR 302.4)					
No data.					
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):					
No data.					
Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A):					
Chemical Name:	CAS Number:	Reportable Quantity:	Threshold planning quantity:	Threshold planning quantity, lower value:	Threshold planning quantity, upper value:
None	x	x	x	x	x
Superfund Amendments and Reauthorization Act of 1986 (SARA)					
SARA 304 Emergency release notification:			No data.		
SARA 311/312 (40 CFR 370) Hazardous Chemical:			No data.		
SARA 313 (Specific toxic chemical listings):					
26678-93-3	Formaldehyde, polymer with 4-(1,1,3,3 tetramethylbutyl)phenol				
1330-20-7	Xylene, mixture of isomers				
26678-93-3	formaldehyde, polymer with 4-(1,1,3,3 tetramethylbutyl)phenol				
108-93-0	cyclohexanol				
Drug Enforcement Administration (DEA) (21 CFR 1308.11-15):			No data.		
Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (Haps) List:			No data.		
Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):			No data.		
Safe Drinking Water Act (SDWA):			No data.		
Canadian Domestic Substances List (DSL):			No data.		
Canadian Ingredient Disclosure List:			<p>Limit 0,1% Cyclohexanone – 108-94-1</p> <p>Limit 1% Isobutyl acetate – 110-19-0 Cyclohexanol – 108-93-0 Benzaldehyde – 100-52-7 Biphenyl – 92-52-4 Ethyl Acetate – 141-78-6</p>		



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Other Regulations	
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
Conforms to Non-Toxic ASTM-4236:	Products are certified in a program of toxicological evaluation by a nationally recognized toxicologist to contain no materials in sufficient quantities to be toxic or injurious to humans or to cause acute or chronic health problems. These products are certified to be labeled in accordance with the voluntary chronic hazard labeling standard ASTM D-4236.
California Proposition 65 Warning:	This product contains the following chemicals that are known to the State of California to cause cancer, birth defects, or other reproductive harm: None
HMIS III Rating:	Health = 1; Fire = 4; Reactivity = 0
Unless a concentration is specified in Section 2 of the SDS, chemicals(s) are present in trace amounts.	



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16. OTHER INFORMATION

The recommendations and information contained in this MSDS have been compiled from sources believed to represent the most current information available when the MSDS was prepared. However, the manufacturer / distributor of this product does not provide any warranty, guaranty of representation as to the correctness or sufficient 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.

Table of Abbreviations			
ACGIH:	American Conference of Governmental Industrial Hygienists	IMDG:	International Maritime Dangerous Goods
ANSI:	American National Standards Institute	LC:	Lethal Concentration
ASTM:	American Society for Testing Materials	LD:	Lethal Dose
°C:	Degrees Centigrade	MARPOL:	Marine Pollution
CAA:	Clean Air Act	mg / kg:	Milligram per Kilogram
CAS:	Chemical Abstract Service	mm:	Millimeter
CCCR:	Consumer Chemicals and Containers Regulations	MSHA:	Mine Safety and Health Administration
CEPA:	Canadian Environmental Protection Act.	N/A:	Not Applicable
CERCLA:	Comprehensive Environmental Response, Compensation & Liability Act	NFPA:	National Fire Protections Association
CFR:	Code of Federal Regulations	NIOSH:	National Institute for Occupational Safety and Health
CPR:	Controlled Products Regulations	NTP:	National Toxicology Program
DEA:	Drug Enforcement Act	OEL:	Over Exposure Limit
DOT:	Department of Transportation	OSHA:	Occupational Safety and Health Administration
DSL:	Canadian Domestic Substances List	PEL:	Permissible Exposure Limits
EmS:	Emergency Medical Goods Services	ppm	Parts Per Million
EPA:	Environmental Protection Agency	SARA	Superfund Amendment and Reauthorization Act
°F:	Degrees Fahrenheit	STEL	Short-Term Exposure Limit
FDA:	Food & Drug Administration	SDS:	Safety Data Sheet
g/l:	Grams per Liter	SDWA:	Safe Drinking Water Act
GHS:	Globally Harmonized System	TLV:	Threshold Limit Value
HAPs:	Hazardous Air Pollutants	TRI:	Toxics Release Inventory
Hg:	Mercury	TSCA	Toxic Substances Control Act
HMIS:	Hazardous Materials Identification System	TWA	Time – Weighted Average
HNOC:	Hazard(s) Not otherwise classified	U.N.	United Nations
IARC:	International Agency for Research on Cancer	WHMIS	Workplace Hazardous Materials Information System
IATA:	International Air Transport Association	>	Greater Than
ID:	Identification / Identity	<	Less Than
IDLH:	Immediate Danger to Life or Health	73/78:	1973 & 1978

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END SAFETY DATA SHEET – V3