1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product information

Trade name	:	896-0901 CHROMA-CHEM® LEAD FREE ORANGE AUO
Use of the Substance / Preparation	:	Aqueous industrial colorant
Company	:	Chromaflo Technologies Corporation 2600 Michigan Avenue Ashtabula,OH 44005-0816 USA
Telephone	:	440-997-5137
Telefax	:	440-992-3613
US: CHEMTREC EMERGENCY NUMBER	:	800-424-9300
CANADA: CANUTEC EMERGENCY NUMBER	:	613-996-6666
Product Regulatory Services	:	440-536-9691

2. HAZARDS IDENTIFICATION

***** EMERGENCY OVERVIEW *****

***Form**-paste* ***Color**-orange* **Odor**-*Mild odor.*

May cause eye, skin and respiratory tract irritation.
May be harmful if swallowed.

POTENTIAL HEALTH EFFECTS

Eye contact

A mild irritant according to test results on CHROMA-CHEM® base mixtures. Can cause tearing and reddening.

Skin Contact

A mild irritant according to test results on CHROMA-CHEM® base mixtures. Repeated exposure may cause drying of the skin.

Inhalation

Possibly irritating.
If misted, causes irritation of mucous membranes, nose, eyes, and throat. May cause coughing and difficulty in breathing.

Ingestion

May cause gastrointestinal irritation, nausea, vomiting, and diarrhea.
Diethylene glycol monomethyl ether has been shown to cause toxic effects on the thymus and the spleen in tests on laboratory animals.
Diethylene glycol monomethyl ether has been shown to cause fetotoxicity and teratogenicity via oral route in tests on laboratory animals.
May be harmful if swallowed.

Chronic Health Hazard

The NJTSR No. 56705700001-5020P, is moderately toxic and may be harmful if swallowed, inhaled or absorbed through the skin. This material may also stimulate the central nervous system, possibly resulting in restlessness, uncoordination, tremors and convulsions.
Oral doses of Diethylene glycol monomethyl ether that were high enough to cause maternal toxicity in pregnant laboratory test animals also produced birth defects in their offspring. When applied continuously to the skin of laboratory test animals during pregnancy, this material caused slight embryofetal toxicity (delayed development) but no increase in birth defects. The relevance of this information to humans is not known. Overexposure to this material has been suggested as a cause of the following effects in laboratory animals, and may aggravate pre-existing disorders of these organs in humans: kidney damage, liver abnormalities, testis damage.
Prolonged inhalation of iron oxide dust is known to produce a condition known as siderosis. On X-rays it appears to be a benign pneumoconiosis and is not associated with pulmonary fibrosis or disability unless there is concurrent exposure to other fibrosis producing materials such as silica. Because this product is a free-flowing liquid or paste, dust inhalation is not an expected route of exposure.
Ethylene glycol monobutyl ether has caused red blood hemolysis in laboratory animals and secondary injury to the kidney and liver. However, humans appear to be resistant to this effect.
The glycol ether has caused red blood hemolysis in laboratory animals and secondary injury to the kidney and liver. However, humans appear to be resistant to this effect.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Information on ingredients / Hazardous components

2-(2-methoxyethoxy)ethanol; diethylene glycol monomethyl ether			
CAS-No.	111-77-3	Percent (Wt./ Wt.)	1 - 5 %
2-butoxyethanol; ethylene glycol monobutyl ether			
CAS-No.	111-76-2	Percent (Wt./ Wt.)	1 - 5 %
C.I. Pigment Yellow 42 (Iron oxide)			
CAS-No.	51274-00-1	Percent (Wt./ Wt.)	1 - 5 %
NJTSR No.56705700001-5020P			
CAS-No.	Trade Secret	Percent (Wt./ Wt.)	1 - 5 %
Titanium dioxide			
CAS-No.	13463-67-7	Percent (Wt./ Wt.)	>= 0.1 - < 1 %

Other information

This material is classified as hazardous under OSHA regulations.

4. FIRST AID MEASURES

Inhalation

If inhaled, remove to fresh air. If breathing is difficult, give oxygen. If unconscious, evaluate the need for artificial respiration. Get immediate medical attention.

Skin contact

Remove contaminated clothing/shoes. Flush skin with water. Follow by washing with soap and water. If symptoms develop or persist, obtain medical attention. Wash clothing before reuse.

Eye contact

In case of contact, immediately flush eyes with plenty of water for at least 30 minutes, while holding eyelids apart.
Do not allow contaminated water to contact the unaffected eye or face during irrigation of an affected eye.
Consult a physician immediately.

Ingestion

If swallowed, do NOT induce vomiting. Have victim drink 8-10 ounces of water to dilute material in stomach. Get medical attention immediately. Never give anything by mouth to an unconscious person.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Use water spray or fog, foam, dry chemical or CO2.

Specific hazards during fire fighting

Burning will produce toxic fumes. Burning will produce hazardous compounds including oxides of: carbon. nitrogen.

Further information

Containers can build up pressure if exposed to heat (fire). Cool with water spray. As in any fire, wear self-contained positive-pressure breathing apparatus, (MSHA/NIOSH approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Additional advice

Absorb spill with inert material, then place in a chemical waste container. After removal, flush contaminated area with water and collect for disposal. Clean up spills immediately. Remove sources of ignition and ventilate area. Use a respirator and other protective equipment as outlined in Section 8. Obey relevant local, state, provincial and federal laws and regulations. Do not contaminate any lakes, streams, ponds, groundwater or soil.

7. HANDLING AND STORAGE

Handling

Safe handling advice

Wash thoroughly after handling.
Use with adequate ventilation.

Follow all MSDS/label precautions even after container is emptied because it may retain product residues.
Avoid contact with skin and eyes.

Storage

Requirements for storage areas and containers

Keep away from heat. Keep away from sparks, flame and other sources of ignition.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Component occupational exposure guidelines

- **Titanium dioxide**

CAS-No.	13463-67-7	
Control parameters	10 mg/m3 15 mg/m3 Total dust.	Time Weighted Average (TWA):(ACGIH) PEL:(OSHA Z1)

- **2-butoxyethanol; ethylene glycol monobutyl ether**

CAS-No.	111-76-2	
	20 ppm 50 ppm 240 mg/m3	Time Weighted Average (TWA):(ACGIH) PEL:(OSHA Z1)
	Can be absorbed through the skin.	Skin designation:(OSHA Z1)
	20 ppm 97 mg/m3	Time Weighted Average (TWA) Permissible Exposure Limit (PEL):(US CA OEL)
	Can be absorbed through the skin.	Skin designation:(US CA OEL)

Engineering measures

Local exhaust and mechanical ventilation recommended.

Personal protective equipment

Respiratory protection

A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 or applicable federal/provincial requirements must be followed whenever workplace conditions warrant respirator use. NIOSH's "Respirator Decision Logic" may be useful in determining the suitability of various types of respirators.

Hand protection

Use impermeable gloves.

Eye protection

Use chemical splash goggles or face shield.

Skin and body protection

To identify additional Personal Protective Equipment (PPE) requirements, it is recommended that a hazard assessment in accordance with the OSHA PPE Standard (29CFR1910.132) be conducted before using this product.
A safety shower and eye wash fountain should be readily available.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form	paste
Color	orange
Odor	Mild odor.

Safety data

pH	8.0 - 9.5	
Boiling point/range	> 100 °C	
Relative density	1.1	
Solubility/qualitative	Solubility in water: Dispersible.	
Viscosity, dynamic	65 - 85 KU (25 °C)	
Relative vapor density	Heavier than air	
Solvents and Volatiles Data		
	% VOC (gm/l)	237
Evaporation rate	Slower than butyl acetate	

10. STABILITY AND REACTIVITY

Materials to avoid	oxidizing substances
Hazardous reactions	Product will not undergo hazardous polymerization.
Further information	Stable under normal conditions.

11. TOXICOLOGICAL INFORMATION

Product Acute oral toxicity	LD50 Rat: min. 2000 mg/kg The data are derived from the evaluations or test results achieved with similar products (conclusion by analogy).
Product Acute inhalation toxicity	LC50 Rat: min. 2.53 mg/l / 4 hThe data are derived from the evaluations or test results achieved with similar products (conclusion by analogy).
Product Acute dermal toxicity	LD50 Rat: min. 2000 mg/kg

The data are derived from the evaluations or test results achieved with similar products (conclusion by analogy).

Component Skin irritation	2-butoxyethanol; ethylene glycol monobutyl ether 111-76-2 Rabbit / 24 h Irritating to skin. Severe skin irritation Method: Draize Test irritating
Component Eye irritation	2-butoxyethanol; ethylene glycol monobutyl ether 111-76-2 Rabbit Irritating to eyes. Severe eye damage must be expected. Severe eye irritation NJTSR No.56705700001-5020P Trade Secret corrosive
Component Repeated dose toxicity	2-butoxyethanol; ethylene glycol monobutyl ether 111-76-2 inhalative mouse Testing period: 730 d LOAEL: 0.6025 mg/l target organ/effect: Lungs, Liver C.I. Pigment Yellow 42 (Iron oxide) 51274-00-1 Prolonged inhalation of iron oxide dust is known to produce a condition known as siderosis. On X-rays it appears to be a benign pneumoconiosis and is not associated with pulmonary fibrosis or disability unless there is concurrent exposure to other fibrosis producing materials such as silica. Titanium dioxide 13463-67-7 High concentrations of titanium dioxide dust caused microscopic lung tumors in rats in lifetime inhalation studies. However, DuPont, the primary US manufacturer, based on a review of the test data and based on an epidemiological study of employees, concludes that titanium dioxide pigment will not cause chronic respiratory disease in humans at concentrations experienced in the workplace.
Component carcinogenicity assessment	2-butoxyethanol; ethylene glycol monobutyl ether 111-76-2 Ethylene glycol monobutyl ether has caused malignant and benign tumors in animal experiments. Titanium dioxide 13463-67-7 Contains a component which is classified as an IARC 2B carcinogen (possibly carcinogenic to humans).

Component teratogenicity assessment	2-(2-methoxyethoxy)ethanol; diethylene glycol monomethyl ether 111-77-3 Diethylene glycol monomethyl ether has been shown to cause fetotoxicity and teratogenicity via oral route in tests on laboratory animals.
Product General Toxicity Information	The toxicological properties of this product were based on data from an analogous product. Ethylene glycol monobutyl ether has caused red blood hemolysis in laboratory animals and secondary injury to the kidney and liver. However, humans appear to be resistant to this effect. Inhalation of ethylene glycol monobutyl ether can cause CNS effects in humans. Ingestion of ethylene glycol monobutyl ether has caused eye effects in animals. Based on animal test results, ethylene glycol monobutyl ether is toxic by skin absorption, ingestion and inhalation.

12. ECOLOGICAL INFORMATION

General Ecological Information	No ecotoxicological studies are available.

13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL

Advice on disposal	Waste must be disposed of in accordance with federal, state, provincial and local regulations.

14. TRANSPORT INFORMATION

Transport/further information

Not dangerous according to transport regulations.

15. REGULATORY INFORMATION

US Federal Regulations

OSHA

If listed below, chemical specific standards apply to the product or components:

- None listed

Clean Air Act Section (112)

If listed below, components present at or above the de minimus level are hazardous air pollutants:

- 2-(2-methoxyethoxy)ethanol; diethylene glycol monomethyl ether
  CAS-No. 111-77-3

CERCLA Reportable Quantities

If listed below, a reportable quantity (RQ) applies to the product based on the percent of the named component:

- None listed

SARA Title III Section 311/312 Hazard Categories

The product meets the criteria only for the listed hazard classes:

- Acute Health Hazard
- Chronic Health Hazard

SARA Title III Section 313 Reportable Substances

If listed below, components are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:

- 2-butoxyethanol; ethylene glycol monobutyl ether
  CAS-No. 111-76-2

- 2-(2-methoxyethoxy)ethanol; diethylene glycol monomethyl ether
  CAS-No. 111-77-3

Toxic Substances Control Act (TSCA)

If listed below, non-proprietary substances are subject to export notification under Section 12 (b) of TSCA:

- None listed

State Regulations

California Proposition 65

A warning under the California Drinking Water Act is required only if listed below:

- None listed

International Chemical Inventory Status

Unless otherwise noted, this product is in compliance with the inventory listing of the countries shown below. For information on listing for countries not shown, contact the Product Regulatory Services Department.

• Europe (EINECS/ELINCS)	Listed/registered
• USA (TSCA)	Listed/registered
• Canada (DSL)	Admitted with restrictions
• Australia (AICS)	Not listed/Not registered
• Japan (MITI)	Listed/registered
• Korea (TCCL)	Listed/registered
• Philippines (PICCS)	Listed/registered
• China	Listed/registered
• New Zealand	Listed/registered

16. OTHER INFORMATION

HMIS Ratings

Health :	2*
Flammability :	1
Physical Hazard :	0

Further information

Changes since the last version are highlighted in the margin. This version replaces all previous versions.

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.