



MATERIAL SAFETY DATA SHEET

PRODUCT: Liquid
REVISION NUMBER: 1

REVISION DATE: 08/21/2004
Date Printed: 08/27/2004

1. PRODUCT AND COMPANY IDENTIFICATION

MANUFACTURED BY: Ferro Corporation
251 West Wylie Avenue
P.O. Box 519
Washington, PA 15301
Prod Info 724-223-5900
CHEMTREC 800-424-9300

Use the CHEMTREC telephone number only in the event of chemical emergencies.

PREPARED BY: G. Myers
PRODUCT CODE: JGG200801US
PRODUCT TRADE NAME: GG 20.08.01 US MARKER PEN GOLD
CAS NO: Mixture
CHEMICAL FAMILY: Decorative Coating
PRODUCT TYPE: Precious Metal Coating

2. COMPOSITION/INFORMATION ON INGREDIENTS

This product does not have exposure limit values. Exposure limit values for some of the components are listed below as a guideline for safe use of this product.

HAZARDOUS COMPONENTS

INGREDIENTS/CAS #	OSHA PEL:	ACGIH TLV:
Camphor 76-22-2	TWA: 2 mg/m ³	TWA: 2 ppm; 12 mg/m ³ STEL: 3 ppm, 19 mg/m ³
Turpentine 8006-64-2	TWA 100 ppm; 560 mg/m ³	TWA 100 ppm; 556 mg/m ³
Rosin 8050-09-7	NE	NE
C.i. Solvent Yellow 14 842-07-9	NE	NE
Cyclohexanone 108-94-1	TWA: 50 ppm; 200 mg/m ³	TWA: 25 ppm; 100 mg/m ³ Skin
Resin/rosin Acids, Bi Salt 68956-80-9	NE	NE
Methyl Cyclohexanol 25693-42-3	NE	NE
N-butyl Acetate 123-86-4	TWA: 150 ppm, 710 mg/m ³	TWA: 150 ppm, 713 mg/m ³ par STEL: 200 ppm, 950 mg/m ³

3. HAZARDS IDENTIFICATION

PRINCIPLE ROUTES OF EXPOSURE: Inhalation, ingestion and dermal.

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The key immediate hazards are:

Flammable Liquid
Skin, eye, and respiratory irritant
May cause an allergic skin reaction.
Harmful if swallowed

Effects from Acute Exposure:

EYE CONTACT : Causes eye irritation.
SKIN CONTACT: Causes skin irritation. May cause an allergic skin reaction.
INHALATION: Causes lung irritation.
INGESTION: Harmful if swallowed

AGGRAVATED MEDICAL CONDITIONS:

Respiratory

Allergic skin reactions

Effects from Chronic Exposure:

CARCINOGENIC INGREDIENTS:

The National Toxicology Program (NTP) has concluded that Solvent Yellow 14 is a carcinogen in mice and rats by the oral route of administration. Animals fed Solvent Yellow 14 dye developed liver nodules. NTP has determined that there is sufficient evidence for the carcinogenicity of methylene chloride to laboratory mice by inhalation. IARC has determined methylene chloride to be a class 2b carcinogen.

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OVEREXPOSURE EFFECTS:

CONTAINS TURPENTINE:

Turpentine is a skin, eye, and respiratory irritant. Inhalation of vapors can also cause headache, dizziness, and unconsciousness. If swallowed, can cause serious health effects such as stomach pain, nausea and vomiting. Lung aspiration can lead to pneumonitis. Possibility of skin sensitization and kidney damage exists.

CONTAINS n-BUTYL ACETATE:

n-Butyl acetate can cause skin, eye, and respiratory irritation. Vapor inhalation may cause headache, weakness, confusion, giddiness, and ataxia.

CONTAINS CAMPHOR:

Camphor can cause eye, nose and throat irritation.

CONTAINS CYCLOHEXANONE:

Long term inhalation studies with laboratory animals associate cyclohexanone with kidney and liver injury, effects on white blood cells, and effects on breathing performance.

CONTAINS METHYL CYCLOHEXANOL:

Methyl cyclohexanol is an eye irritant. Inhalation of vapor/mist can cause nose and throat irritation. It has caused adverse kidney and liver effects in laboratory animals. There is no evidence of these effects in humans.

CONTAINS 1-(PHENYLAZO)-2-NAPHTHOL (C.I. SOLVENT YELLOW 14):

C.I. Solvent yellow 14 has caused bladder, kidney, and liver tumors in laboratory animals. There is no evidence that C.I. Solvent yellow 14 poses a carcinogenic risk to humans. It is listed in group 3 by IARC and is not listed by NTP or OSHA.

CONTAINS RESIN AND ROSIN ACIDS, BISMUTH SALTS:

Rosin derivatives can cause skin, eye, and respiratory irritation. In addition, rosin and some derivatives may cause allergic skin reactions (such as rash) in susceptible individuals. Symptoms can include redness of skin and eyes, tearing and coughing. ~~May contain bismuth oxide which has the ability to displace lead from binding sites in the body. This may cause symptoms of lead poisoning (such as abdominal cramps) if a prior history of lead exposure and absorption exists.~~

CONTAINS ROSIN DERIVATIVE(S):

Rosin derivatives can cause skin, eye and respiratory irritation. In addition, rosin and some derivatives may cause allergic skin reactions (such as rash) in susceptible individuals. Symptoms can include redness of skin and eyes, tearing and coughing.

4. FIRST AID MEASURES

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INGESTION: If swallowed, give at least 3-4 glasses of water, but do not induce vomiting. Do not give anything by mouth to an unconscious or convulsing person. Get immediate medical attention.

SKIN: For skin contact, wash affected areas with plenty of water, and soap if available, for several minutes. Get medical attention if irritation occurs.

INHALATION: If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

EYES: For eye contact, immediately flush eyes for at least 15 minutes with running water. Hold eyelids apart to ensure rinsing of the entire eye surface and lids with water. Get immediate medical attention if irritation develops.

NOTES TO PHYSICIAN: None specified.

5. FIRE FIGHTING MEASURES

OSHA FLAMMABILITY CLASS: FLAMMABLE

FLASH POINT (°F): 73

Flashpoint Method: Pensky-Martin Closed Cup or Grabner Mini-flash

Lower Explosive Limit: Not Available

Upper Explosive Limit: Not Available

EXTINGUISHING MEDIA: Carbon Dioxide, Dry Chemical, Foam or Water Mist

FIRE FIGHTING PROCEDURES: Fire-Fighters should wear self-contained breathing apparatus and full protective clothing when fighting chemical fires.

Use water spray to cool nearby containers and structures exposed to fire.

UNUSUAL HAZARDS: Decomposition and combustion products may be toxic.

6. ACCIDENTAL RELEASE MEASURES

SPILL PROCEDURES: Wear appropriate protective equipment. Avoid the generation of dust. Collect (Vacuum, Absorb, or Shovel) material and place in closable container(s) for disposal.

7. HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Avoid contact with eyes, skin and clothing.

NOTES ON HANDLING INFORMATION: Minimize dust generation during handling. Use adequate ventilation.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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VENTILATION: Adequate ventilation should be provided to keep concentrations below acceptable Exposure Limits. Discharge from the ventilation system should comply with the applicable air pollution control regulations.

EYE PROTECTION: Wear safety glasses or goggles to protect against exposure.

PROTECTIVE GLOVES: Use gloves as a standard industrial handling procedure.

RESPIRATORY PROTECTION: Appropriate respiratory protection is required when exposure to airborne contaminant is likely to exceed acceptable limits. Respirators should be selected and used in accordance with OSHA Subpart I (29 CFR 1910.134) and manufacturer's recommendations.

OTHER PERSONAL PROTECTIVE EQUIPMENT: None specified.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Brown Liquid

BOILING POINT: Not Available

VAPOR DENSITY (AIR=1): Heavier than air

EVAP. RATE(BUTYL ACETATE=1): Slower than n-Butyl Acetate

VOC, Wt.% (EPA METH.24): 67

BULK DENSITY: Not Available

SOLUBILITY (in water): Insoluble

10. STABILITY AND REACTIVITY

STABILITY DATA: STABLE

POLYMERIZATION: WILL NOT OCCUR

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide, carbon dioxide and depending on conditions, some hydrocarbon fragments may also be formed.

INCOMPATIBILITY

(MATERIALS TO AVOID): Strong oxidizing agents

CONDITIONS/HAZARDS TO AVOID: None known.

11. TOXICOLOGICAL INFORMATION

No Toxicological data known.

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION: No data at this time

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CHEMICAL FATE INFORMATION: No data at this time.

PERSISTENCE/DEGRADABILITY: No data at this time.

APPRAISAL: No data at this time.

MOBILITY: No data at this time.

13. DISPOSAL CONSIDERATIONS

DISPOSAL OF WASTE METHOD: Dispose in accordance with Federal, State and Local regulations.

14. TRANSPORT INFORMATION

DOT Shipping Name: PAINT RELATED MATERIAL

DOT HAZARD CLASS: 3

DOT LABEL(S): FLAMMABLE LIQUID

UN/NA NUMBER: UN1263

PACKING GROUP: PG III

15. REGULATORY INFORMATION

SARA SECTION 302: None Found

SARA (311, 312) HAZARD CLASS: ACUTE HEALTH HAZARD
CHRONIC HEALTH HAZARD
FIRE HAZARD

SARA 313 Title III Toxic Chemical List:

The following chemicals 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.

< 1	%	Glycol ethers	< 1	%
	%	Dibutyl Phthalate	< 1	%
	%	Toluene	35	%
	%	Cyclohexanol	< 0.1	%
	%	C.I. Solvent Yellow 14	< 1	%

TSCA Inventory Status: This product (and/or all of its components) is in compliance with the U.S. EPA Toxic Substance Control Act, TSCA, (15 U.S.C. 2604).

This product and all of its components is listed on the DSL inventory.

CANADIAN INVENTORY:

16. OTHER INFORMATION

Revisions: The Format has been changed to meet the requirements of the new ANSI Standard Z400.1.

PRODUCT TRADE NAME: GG 20.08.01 US MARKER PEN GOLD

LABEL INFORMATION:

DANGER!

Flammable liquid.

Skin, eye, and respiratory irritant.

May cause allergic skin reactions.

Contains methylene chloride which can cause cancer and heart, central nervous system, and liver effects.
Harmful if swallowed.

Keep away from heat, sparks and flame.

Avoid contact with eyes, skin and clothing.

Avoid breathing dust, mist or vapor.

Keep away from food products.

Wash thoroughly after handling and before eating, drinking or using cosmetic or tobacco products or toilet facilities.

Use with adequate ventilation.

Keep container closed when not in use.

FIRST AID: If inhaled, remove to fresh air. If breathing is difficult, give oxygen. In case of contact, immediately flush eyes or skin with plenty of water. Remove contaminated clothing. Get medical attention.

IN CASE OF FIRE: Use water, dry chemical or carbon dioxide.

IN CASE OF SPILL: Collect and dispose in accordance with federal, state and local regulations.

FOR INDUSTRIAL USE ONLY.

DEFINITIONS AND ABBREVIATIONS :

ACGIH = American Conference of Governmental Industrial Hygienists

C (CEIL) = The concentration that shall not be exceeded during any part of the working exposure.

CAS # = Chemical Abstracts Service Registry Number

EPA = Environmental Protection Agency

IARC = International Agency for Research on Cancer

NIOSH = National Institute for Occupational Safety and Health

NTP = National Toxicology Program

OSHA = Occupational Safety and Health Administration

PEL = Permissible Exposure Limit

SARA = Superfund Amendments and Reauthorization Act

STEL = Short Term Exposure Limit. Usually a 15 minute time weighted average exposure.

TLV = Threshold Limit Values

TSCA = Toxic Substance Control Act

TWA = Time Weighted Average. Exposure concentration for a normal 8 hour day or 40 hour week.

VOC = Volatile Organic Content

DISCLAIMER: The information contained in this Material Safety Data Sheet (MSDS) has been compiled from sources believed to be reliable and to represent the most reasonable current opinion on the subject when the MSDS was prepared. No guarantee is made as to the correctness or sufficiency of the information. The user of this product must decide what safety measures are necessary to safely use this product, either alone or in combination with other products, and determine the regulatory compliance obligations under any applicable federal or state laws.

***** END OF MSDS *****