

1. Product and Company Identification

Material name Guthega CR4 Cyan
Version # 02
Revision date 10-19-2010
Product use Inkjet printing.
Manufacturer/Supplier Memjet
 15920 Bernardo Center Drive
 San Diego, CA 92127
 US
 Telephone 1-858-798-3000

Emergency CHEMTREC within USA & Canada 1-800-424-9300
 CHEMTREC outside USA & Canada +1 703-527-3887

2. Hazards Identification

Physical state Liquid.
Emergency overview WARNING

Harmful if swallowed. Causes skin, eye and respiratory tract irritation.

OSHA regulatory status This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).

Potential health effects
Routes of exposure

Eye contact. Skin contact. Inhalation. Ingestion.

Eyes

Causes eye irritation. May cause redness and pain.

Skin

Causes skin irritation.

Inhalation

Causes respiratory tract irritation. Vapor may affect central nervous system and cause headache, discomfort, vomiting or intoxication.

Ingestion

Harmful if swallowed.

Target organs

Eyes. Respiratory system. Skin. Kidneys. Central nervous system.

Chronic effects

May cause central nervous system effects. May cause damage to the kidneys.

Potential environmental effects Harmful to aquatic organisms.

3. Composition / Information on Ingredients

Components	CAS #	Percent
Water	7732-18-5	60 - 80
Ethylene glycol	107-21-1	2.5 - 10
Organic compound	Proprietary	2.5 - 10
Organic compound 2	Proprietary	2.5 - 10
Proprietary cyan dye	N/A	2.5 - 10

Composition comments All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First Aid Measures
First aid procedures
Eye contact

Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Get medical attention if irritation persists after washing.

Skin contact

Take off immediately all contaminated clothing. Wash off immediately with soap and plenty of water. Get medical attention if irritation persists after washing.

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. For breathing difficulties, oxygen may be necessary. Get medical attention if symptoms persist.
Ingestion	Rinse mouth thoroughly. Only induce vomiting at the instruction of medical personnel. If vomiting occurs, keep head low so that stomach content does not get into the lungs. Get medical attention if any discomfort continues.
Notes to physician	Treat symptomatically.
General advice	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. Fire Fighting Measures

Extinguishing media

Suitable extinguishing media Water. Water spray. Foam. Dry powder. Carbon dioxide (CO₂).

Unsuitable extinguishing media Do not use a solid water stream as it may scatter and spread fire.

Protection of firefighters

Specific hazards arising from the chemical By heating and fire, harmful vapors/gases may be formed.

Protective equipment and precautions for firefighters Selection of respiratory protection for fire fighting: follow the general fire precautions indicated in the workplace. Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Specific methods Use standard firefighting procedures and consider the hazards of other involved materials. Containers close to fire should be removed or cooled with water.

6. Accidental Release Measures

Personal precautions Keep away from sources of ignition - No smoking. Ensure adequate ventilation. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Wear appropriate protective equipment and clothing during clean-up. Keep unnecessary personnel away. Keep upwind.

Environmental precautions Prevent further leakage or spillage if safe to do so. Do not contaminate water.

Methods for containment Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Use water spray to reduce vapors or divert vapor cloud drift. Prevent entry into waterways, sewer, basements or confined areas.

Methods for cleaning up Absorb spillage with non-combustible, absorbent material. For waste disposal, see Section 13 of the MSDS.

Other information Clean up in accordance with all applicable regulations.

7. Handling and Storage

Handling Use only in well-ventilated areas. Local exhaust is recommended. Avoid inhalation of vapors/mist and contact with skin and eyes. Wear appropriate personal protective equipment. Keep away from heat, spark, open flames and other sources of ignition.

Storage Keep away from heat, sparks and open flame. Store in tightly closed original container in a dry and cool place.

8. Exposure Controls / Personal Protection

Occupational exposure limits

ACGIH

Components	Type	Value	Form
Ethylene glycol (107-21-1)	TWA	100 mg/m ³	Aerosol.
Organic compound (Proprietary)	TWA	10 mg/m ³	Mist.

U.S. - OSHA

Components	Type	Value	Form
Ethylene glycol (107-21-1)	Ceiling	50 ppm	
Organic compound (Proprietary)	PEL	125 mg/m ³	
		5 mg/m ³	Respirable fraction.
	TWA	15 mg/m ³	Total dust.
		10 mg/m ³	Total dust.
		5 mg/m ³	Respirable fraction.

Canada - Alberta

Components	Type	Value	Form
Ethylene glycol (107-21-1)	Ceiling	100 mg/m3	
Organic compound (Proprietary)	TWA	10 mg/m3	Mist.

Canada - British Columbia

Components	Type	Value	Form
Ethylene glycol (107-21-1)	Ceiling	50 ppm	Vapor.
		100 mg/m3	Aerosol.
	STEL	20 mg/m3	Particulate.
	TWA	10 mg/m3	Particulate.
Organic compound (Proprietary)	TWA	3 mg/m3	Respirable mist.
		10 mg/m3	Mist.

Canada - Ontario

Components	Type	Value	Form
Ethylene glycol (107-21-1)	Ceiling	100 mg/m3	
Organic compound (Proprietary)	TWA	10 mg/m3	Mist.

Canada - Quebec

Components	Type	Value	Form
Ethylene glycol (107-21-1)	Ceiling	50 ppm	Vapor and mist.
		127 mg/m3	Vapor and mist.
Organic compound (Proprietary)	TWA	10 mg/m3	Mist.

Mexico

Components	Type	Value	Form
Ethylene glycol (107-21-1)	Ceiling	100 mg/m3	Aerosol.
Organic compound (Proprietary)	TWA	10 mg/m3	Mist.

Engineering controls Provide adequate ventilation. Observe Occupational Exposure Limits and minimize the risk of inhalation of vapors. Provide easy access to water supply and eye wash facilities.

Personal protective equipment

Eye / face protection Wear approved chemical safety goggles.

Skin protection Wear appropriate clothing to prevent repeated or prolonged skin contact. Wear protective gloves. Be aware that the liquid may penetrate the gloves. Frequent change is advisable.

Respiratory protection In case of inadequate ventilation or risk of inhalation of vapors, use suitable respiratory equipment.

General hygiene considerations Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned.

9. Physical & Chemical Properties

Color	Cyan
Odor	Not available.
Odor threshold	Not available.
Physical state	Liquid.
Form	Liquid.
pH	6.5 - 7.5
Melting point	Not available.
Freezing point	Not available.
Boiling point	> 194 °F (> 90 °C)
Flash point	> 200 °F (> 93.3 °C)
Evaporation rate	Not available.
Flammability	Not available.
Flammability limits in air, upper, % by volume	Not available.
Flammability limits in air, lower, % by volume	Not available.
Vapor pressure	Not available.

Vapor density	> 1 (air=1)
Specific gravity	1 - 1.1
Solubility (water)	Soluble in water.
Partition coefficient (n-octanol/water)	Not available
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	< 15 cP

10. Chemical Stability & Reactivity Information

Chemical stability	Stable at normal conditions.
Conditions to avoid	Heat, flames and sparks.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Carbon oxides. Copper compounds. Sulfur oxides. Nitrogen oxides (NOx).
Possibility of hazardous reactions	Will not occur.

11. Toxicological Information

Toxicological data

Components

Ethylene glycol (107-21-1)

Proprietary cyan dye (N/A)

Organic compound 2 (Proprietary)

Test Results

Acute Dermal LD50 Rabbit: 9530 mg/kg

Acute Oral LD50 Rat: 4700 mg/kg

Acute Oral 500 - 5000 mg/kg

Acute Oral LD50 Guinea pig: 6500 mg/kg

Acute Oral LD50 Rat: 6500 mg/kg

Acute effects	Harmful if swallowed.
Local effects	Causes skin, eye and respiratory tract irritation. May cause central nervous system effects.
Sensitization	Not a skin sensitizer.
Chronic effects	May cause damage to the kidneys.
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
ACGIH Carcinogens	
Ethylene glycol (CAS 107-21-1)	A4 Not classifiable as a human carcinogen.
Mutagenicity	None known.
Reproductive effects	None known.
Symptoms and target organs	Irritating and may cause redness and pain. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea.

12. Ecological Information

Ecotoxicological data

Components

Ethylene glycol (107-21-1)

Organic compound 2 (Proprietary)

Test Results

LC50 Fathead minnow (*Pimephales promelas*): 8050 mg/l 96 hours

EC50 Water flea (*Daphnia pulex*): 13.21 mg/l 48 hours

Ecotoxicity	Harmful to aquatic life.
Persistence and degradability	No data available.
Bioaccumulation / Accumulation	No data available.
Partition coefficient (n-octanol/water)	Not available
Mobility in environmental media	The product is water soluble and may spread in water systems.

13. Disposal Considerations

Disposal instructions	Dispose of waste and residues in accordance with local authority requirements.
Waste from residues / unused products	Disposal recommendations are based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal. Do not discharge into drains, water courses or onto the ground.
Contaminated packaging	Since emptied containers retain product residue, follow label warnings even after container is emptied.

14. Transport Information

DOT

Not regulated as dangerous goods.

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

TDG

Not regulated as dangerous goods.

15. Regulatory Information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: De minimis concentration

Ethylene glycol (CAS 107-21-1) 1.0 %

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance

Ethylene glycol (CAS 107-21-1) Listed.

CERCLA (Superfund) reportable quantity (lbs)

Ethylene glycol 5000

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
Immediate Hazard - Yes
Delayed Hazard - Yes
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

Section 302 extremely hazardous substance No

Section 311 hazardous chemical Yes

Drug Enforcement Agency (DEA) Not controlled

WHMIS status Controlled

WHMIS classification D2B - Other Toxic Effects-TOXIC

WHMIS labeling



Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	Yes
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes

Country(s) or region	Inventory name	On inventory (yes/no)*
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

State regulations This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

US - California Hazardous Substances (Director's): Listed substance

Ethylene glycol (CAS 107-21-1) Listed.

US - Massachusetts RTK - Substance: Listed substance

Ethylene glycol (CAS 107-21-1) Listed.

Organic compound (CAS Proprietary) Listed.

Organic compound 2 (CAS Proprietary) Listed.

US - New Jersey Community RTK (EHS Survey): Reportable threshold

Ethylene glycol (CAS 107-21-1) 500 LBS

US - New Jersey RTK - Substances: Listed substance

Ethylene glycol (CAS 107-21-1) Listed.

US - Pennsylvania RTK - Hazardous Substances: Listed substance

Ethylene glycol (CAS 107-21-1) Listed.

Organic compound (CAS Proprietary) Listed.

Organic compound 2 (CAS Proprietary) Listed.

16. Other Information

Further information HMIS® is a registered trade and service mark of the NPCA. C - Safety Glasses, Gloves, Apron

HMIS® ratings
 Health: 1*
 Flammability: 1
 Physical hazard: 0
 Personal protection: C

NFPA ratings
 Health: 1
 Flammability: 1
 Instability: 0

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