

# MATERIAL SAFETY DATA SHEET

Rev. 01 Revised date: 12/07/2018

## 1. PRODUCT NAME AND IDENTIFICATION

**Product Name:** JCP 214 INK CLEANER  
**Chemical Name & Synonyms:** N/A  
**CAS Number:** N/A, Mixture  
**Company Name:** JCP GROUP (THAILAND) CO., LTD.  
**Tel & Fax:** +(66)34-410-824      **Emergency:** +(66)85-105-6034

## 2. HAZARDS IDENTIFICATION

### Emergency Overview

### Classification according to Directive 67/548/EEC

R20: Harmful by inhalation.  
 R21: Harmful in contact with skin  
 R22: Harmful if swallowed.  
 R36: Irritating to eyes  
 R38: Irritating to skin.

### GHS Label elements, including precautionary statements

#### Pictogram



**Signal word** Danger

#### Hazard statement(s)

H332 Harmful if inhaled  
 H312 Harmful incontact with skin  
 H302 Harmful if swallowed  
 H319 Causes serious eye irritation..  
 H315 Causes skin irritation.

#### Precautionary statement(s)

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
 P233 Keep container tightly closed  
 P240 Ground/bond container and receiving equipment.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS#	% by Wt.	OSHA TWA (ppm)	ACGIH-TWA (ppm)
2-BUTOXYETHANOL	111-76-2	20 – 25%	N/A	N/A
NON-HAZARDOUS	-	75 – 80%	N/A	N/A

## 4. FIRST AID MEASURES

### Firs aid procedures

### General advice

Move out of dangerous area. Consult a physician. Show this material safety data sheet to the doctor in attendance. Do not leave the victim unattended.

### If inhaled

Call a physician or poison control center immediately. Move to fresh air. If unconscious place in recovery position and seek medical advice.

### In case of skin contact

If skin irritation persists, call a physician. If on skin, rinse well with water. If on clothes, remove clothes.

### In case of eye contact

In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.

### If swallowed

Clean mouth with water and drink afterwards plenty of water. Keep respiratory tract clear. Do NOT induce vomiting. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. Call a POISON CENTER or doctor/ physician.

## Notes to physician

### Treatment

In vitro results with human red blood cells suggest that humans are more resistant to the hemolytic effects of EGBE than laboratory test animals such as mice, rats, and rabbits. These results suggest that hemolysis and secondary effects observed in laboratory animals are unlikely to occur in humans except in extreme cases when exposure is severe and/or prolonged. Indicators for treatment and observation include metabolic acidosis, urinary excretion of 2-butoxy acetic acid (BAA), hemolysis, or hematuria.

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## 5. FIRE FIGHTING MEASURES

### Flammable properties

<b>Flash point</b>	154 - 158 °F (68 - 70 °C)	<b>Method:</b> Tag closed cup
<b>Autoignition temperature</b>	471 °F (244 °C)	
<b>Lower explosion limit</b>	1.1 vol%	
<b>Upper explosion limit</b>	10.6 vol%	

### Fire fighting

#### Suitable extinguishing media

SMALL FIRE: Use dry chemicals, CO<sub>2</sub>, water spray or alcohol-resistant foam.

LARGE FIRE: Use water spray, water fog or alcohol-resistant foam.

#### Unsuitable extinguishing media

Do not use solid water stream.

### Protective equipment and precautions for firefighters

#### Specific hazards during fire fighting

Evacuate area.

Eliminate all ignition sources if safe to do so.

Flash back possible over considerable distance.

Fight fire with normal precautions from a reasonable distance.

Cool closed containers exposed to fire with water spray.

#### Special protective equipment for fire-fighters

Wear positive pressure self-contained breathing apparatus (SCBA).

Structural firefighters protective clothing will only provide limited protection.

### NFPA (National Fire Protection Association)

Health Hazard 2      Fire Hazard 2      Reactivity 0

## 6. ACCIDENTAL RELEASE (SPILL MEASURES)

### Methods for containment / Methods for cleaning up

Eliminate all sources of ignition.

All equipment used when handling this product must be grounded.

Do not touch or walk through spilled material.

Stop leak if you can do it without risk.

Prevent entry into waterways, sewers, basements or confined areas.

A vapor suppressing foam may be used to reduce vapors.

Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.

Use clean non-sparking tools to collect absorbed material.

### Additional advice

See section 8 for additional PPE information.

## 7. HANDLING AND STORAGE

### Handling

#### Advice on safe handling

Containers, even those that have been emptied, will retain product residue and vapor and should be handled as if they were full. Do not eat, drink or smoke in areas where this material is used. After handling, always wash hands thoroughly with soap and water. Do not handle near heat, sparks, or flame. Avoid contact with incompatible agents. Use only with adequate ventilation/personal protection. Avoid contact with eyes, skin and clothing. Do not enter storage area unless adequately ventilated. Metal containers involved in the transfer of this material should be grounded and bonded.

### Storage

#### Requirements for storage areas and containers

Prevent unauthorized access. No smoking.

Keep away from open flames, hot surfaces and sources of ignition.

Keep container tightly closed in a dry and well-ventilated place.

Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Observe label precautions.

Electrical installations / working materials must comply with the technological safety standards

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Component	Source	Type	Value
2-butoxyethanol	OEL (MX)	STEL	75 ppm 360 mg/m <sup>3</sup>
		TWA	26 ppm 120 mg/m <sup>3</sup>
	NIOSH US (ACGIH)	IDLH	700 ppm
		TWA	20 ppm

### Engineering measures

Ensure that eyewash stations and safety showers are close to the workstation location. Handle only in a place equipped with local exhaust (or other appropriate exhaust).

## Personal protective equipment

### Eye protection

Wear safety glasses as minimum eye protection. Conditions may warrant the use of chemical goggles and possibly a face shield. Consult your standard operating procedure or safety professional for advice. Use protective eye and face devices that comply with ANSI Z87.1-1987.

### Hand protection

Wear chemical resistant gloves such as: Rubber

### Skin and body protection

Use PPE that is chemical resistant to the product and prevents skin contact.

### Respiratory protection

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

### Hygiene measures

Selection of appropriate personal protective equipment should be based on an evaluation of the performance characteristics of the protective equipment relative to the task(s) to be performed, conditions present, duration of use, and the hazards and/or potential hazards that may be encountered during use.

## 9. PHYSICAL AND CHEMICAL PROPERTIES (Typical)

### Appearance

**Physical** state Liquid

**Color** Colorless

**Odor** Ether-like

### Safety data

**Flash point** 154 - 158 °F (68 - 70 °C) **Method:** Tag closed cup

**Lower explosion limit** 1 vol%

**Upper explosion limit** 10.6 vol%

**Flammability (solid, gas)** Combustible.

**Oxidizing properties** Not applicable

**Autoignition temperature** 471 °F (244 °C)

**Molecular Weight** 118.17 g/mol

**pH Note:** no data available

**Freezing point** -94 °F (-70 °C)

**Boiling point:** 336 °F (169 °C)

**Vapor pressure** 0.799 hPa (0.599 mm Hg) at 68 °F (20 °C)

**Density** 0.921 g/cm<sup>3</sup> at 68 °F (20 °C) Note: (Water = 1)

**Water solubility Note:** completely miscible

**Partition coefficient n-octanol/water:** log Pow: 0.83 Note: Log Kow = 0.83, estimated

**Viscosity, dynamic** 6.4 mPa.s at 68 °F (20 °C)

**Relative vapor density** 4.1 Note: (Air = 1.0)

**Evaporation rate** 0.1

**Remarks - Other information** No information available.

This safety datasheet only contains information relating to safety and does not replace any product information or product specification.

## 10. STABILITY AND REACTIVITY

### Conditions to avoid

Heat, flames and sparks

### Materials to avoid

Oxidizing agents, acids, bases, amines, ammonia and acid chlorides.

## Hazardous decomposition products

Carbon oxides.

## Thermal decomposition

Carbon monoxide, carbon dioxide and unburned, hydrocarbons (smoke).

## Hazardous reactions

No dangerous reaction known under conditions of normal use. Reacts with air to form peroxides

## 11. TOXICOLOGICAL INFORMATION

### Product Summary

Ethylene glycol monobutyl ether (EGBE) presents a minimal acute toxicity hazard to humans after exposure via ingestion, skin contact, and inhalation. EGBE is irritating to the eye and skin. It is not a skin sensitizer. Results from acute and repeat exposure studies in rats, mice and rabbits indicate that EGBE causes injury to red blood cells with subsequent intravascular hemolysis and anemia, and secondary changes in the liver and kidney. Human and guinea pig red blood cells are resistant to EGBE injury and therefore the effects noted in sensitive species are not relevant to humans. Reproductive toxicity, as a decrease in the number of litters and a decrease in fertility index, and developmental toxicity, as a decrease in pup weights, were observed in mice after exposure to EGBE in drinking water, but only at doses which produced significant parental toxicity. There were no fetal malformations in offspring of female rats or rabbits exposed to EGBE during pregnancy, even at doses that produced maternal toxicity. EGBE is inactive in standardized mutagenicity tests in vitro and in vivo. Exposure to EGBE by inhalation for 2 years caused an increase in forestomach tumors in female mice and liver tumors in male mice. No significant increase in tumors was observed in male and female rats exposed to EGBE for 2 years by inhalation; a slight increase in adrenal tumors in female rats was considered an equivocal result.

### 2-BUTOXYETHANOL

#### Acute oral toxicity

LD50 Oral: 1,414 mg/kg Species: guinea pig

Remarks: Ingestion may cause weakness, confusion, anxiety, decreased blood pressure, and CNS depression with collapse and coma.

LD50 Oral: 1,746 mg/kg Species: rat

#### Acute inhalation toxicity

LC50: ~ 932 ppm Exposure time: 4 HOURS Species: guinea pig

Remarks: Exposure to vapor may cause irritation of the eyes, nose, and respiratory tract. May cause nausea and headaches. Extensive and prolonged contact with skin may cause confusion, anxiety, decreased blood pressure, and CNS depression with collapse and coma.

LC50: ~ 700 ppm Exposure time: 7 HOURS Species: rat

#### Acute dermal toxicity

LD50: > 2,000 mg/kg Species: guinea pig

Remarks: Minimal hazard by skin contact with liquid or vapor. This material may be absorbed through the skin. High dermal doses (most likely achieved from exposure to undiluted liquid) may cause weakness, headache and nausea. Extensive and prolonged contact with skin may cause confusion, anxiety, decreased blood pressure, and CNS depression with collapse and coma.

LD50: > 2,000 mg/kg Species: rat

#### Skin irritation

Remarks: Repeated or prolonged contact may cause skin irritation

#### Eye irritation

Remarks: Moderate to severe eye irritant

#### Sensitization

Remarks: Did not cause sensitization on laboratory animals.

#### Target Organ Effects

Eye irritant.

#### Repeated dose toxicity

The common laboratory species of rat, mice and rabbits are not good surrogates for predicting human toxicity for EGBE due to the fact that while human red blood cells are resistant to hemolysis from EGBE exposure, the erythrocytes of rats, mice and rabbits are very sensitive to EGBE exposure. Repeated exposure to EGBE at 125 ppm by inhalation caused injury to red blood cells with subsequent anemia and changes to the spleen, liver, and kidney. Inhalation exposure to EGBE at or above 32 ppm caused degeneration of the nasal epithelium. Repeated oral administration of EGBE at doses of 222 mg/kg bwt, caused injury to red blood cells with subsequent anemia and changes to the spleen, liver, and kidney. Repeated dermal exposure to EGBE at 180 mg/kg bwt caused injury to red blood cells. Minimal risk to human health after prolonged exposure

#### **CMR effects**

##### **Carcinogenicity**

Long-term exposure via inhalation at concentrations up to 125 ppm caused an increase in the incidence of liver tumors in male mice and forestomach tumors in female mice. A slight increase in adrenal tumors was observed in female rats. The NTP has determined that EGBE displays some evidence of carcinogenicity in mice, and equivocal evidence of carcinogenicity in female rats. The International Agency for Research on Cancer (IARC) has evaluated this material as an IARC Group 3 not classifiable as to carcinogenicity in humans, based on limited data in animals and inadequate data in humans.

##### **Mutagenicity**

Animal testing did not show any mutagenic effects. No evidence of mutagenic activity in standard bacterial and mammalian test systems in vitro. No increase in micronuclei in rodents after in vivo exposure.

##### **Teratogenicity**

EGBE is not teratogenic in rats or rabbits exposed by inhalation during organogenesis at concentrations up to 200 ppm. Maternal toxicity and minimal fetotoxicity occurred at or above 100 ppm. No maternal or developmental toxicity was observed in rabbits that received approximately 2100 mg/kg bwt/day EGBE by the dermal route of exposure during organogenesis.

##### **Reproductive toxicity**

No adverse effect on reproductive performance was observed in male and female mice exposed to EGBE in drinking water at a 700 mg/kg bwt/day over two generations. A slight reduction in pup body weights and decreased maternal water consumption was observed in mice exposed to 700 mg/kg bwt/day EGBE. Dose levels of 1300 mg/kg/day and higher caused significant parental toxicity (including mortality) and a decreased number of litters.

## **12. ECOLOGICAL INFORMATION**

### **2-Butoxyethanol**

#### **Toxicity to fish**

LC50: 1,490 mg/l Exposure time: 96 HOURS Species: *Lepomis macrochirus* (Bluegill sunfish)

LC50: 2,137 mg/l Exposure time: 96 HOURS Species: *Pimephales promelas* (fathead minnow)

LC50: 1,650 mg/l Exposure time: 24 HOURS Species: *Carassius auratus*

Remarks: This material is not harmful or toxic to fish.

#### **Toxicity to daphnia and other aquatic invertebrates**

LC50: 775 mg/l Exposure time: 48 HOURS Species: *Crangon crangon* (shrimp)

LC50: 835 mg/l Exposure time: 48 HOURS Species: *Daphnia magna* (Water flea)

Remarks: This material is not harmful or toxic to aquatic invertebrates.

#### **Toxicity to algae**

EC0: 35 mg/l Exposure time: 192 HOURS Species: *Microcystis aeruginosa*

LOEC: 900 mg/l Exposure time: 168 HOURS Species: *Scenedesmus quadricauda* (Green algae)

LOEC: 250 mg/l Exposure time: 168 HOURS Species: *Scenedesmus capricornutum* (fresh water algae)

Remarks: This material is harmful to algae or higher aquatic plants.

#### **Toxicity to bacteria**

EC0: 700 mg/l Exposure time: 16 HOURS Species: *Pseudomonas putida*

Remarks: This material is not toxic or harmful to bacteria.

#### **Toxicity to fish (Chronic toxicity)**

LC50: 983 mg/l Exposure time: 7 d Species: *Poecilia reticulata* (guppy)

### **Toxicity to daphnia and other aquatic invertebrates. (Chronic toxicity)**

Remarks: no data available

### **Bioaccumulation**

Bioconcentration factor (BCF): 3.0 Method: estimated

Remarks: Low potential for bioaccumulation. BCF = 3.0 (estimated).

### **Distribution among environmental compartments**

Remarks: Highly mobile in soil and likely to volatilize from moist or dry soil surfaces. Expected to volatilize from surface waters and not likely to adsorb to suspended solids and sediment in water.

### **Additional advice Environmental fate and pathways**

Remarks: In air, the estimated photodegradation half-life of EGBE ranges from 16 to 27.5 hours. Does not undergo hydrolysis.

### **Biodegradability**

Remarks: Expected to be biodegradable

In water, the volatilization half-life of EGBE from a model river and lake is estimated to be 25 days and 185 days, respectively. The estimated half-life in groundwater ranging from 14 days to 8 weeks.

In soil, the estimated half-life of EGBE ranges from 7 days to 4 weeks.

In water, the volatilization half-life of EGBE from a model river and lake is estimated to be 25 days and 185 days, respectively. The estimated half-life in groundwater ranging from 14 days to 8 weeks.

In soil, the estimated half-life of EGBE ranges from 7 days to 4 weeks.

### **Further information on ecology**

Additional ecological information: See component summary

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## **13. DISPOSAL CONSIDERATIONS**

### **Further information**

Do not dispose of waste into sewer.

Do not contaminate ponds, waterways or ditches with chemical or used container.

Dispose of as hazardous waste in compliance with local and national regulations.

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## **14. TRANSPORT INFORMATION**

### **International Regulation**

**ADR:** Not regulated as a dangerous good

**UNRTDG:** Not regulated as a dangerous good

**IATA-DGR:** Not regulated as a dangerous good

**IMDG-Code:** Not regulated as a dangerous good

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:** Not applicable for product as supplied.

**Further information for transport:** Not classified as dangerous in the meaning of transport regulations.

**NCh 2190/382:** Not regulated as a dangerous good

**Land transport:** Not regulated as a dangerous good.

**DOT Description:** Not regulated as a dangerous good.

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## **15. REGULATORY INFORMATION**

### **Notification status:**

All ingredients are on the following inventories or are exempted from listing:

<b>Country</b>	<b>Notification</b>
<b>Australia</b>	AICS
<b>Canada</b>	DSL
<b>China</b>	IECS

European Union	EINECS
Japan	ENCS/ISHL
Korea	ECL
Philippines	PICCS
United States of America	TSCA
Newzeland	NZIoC

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## **16. OTHER INFORMATION**

The above information is based on data available to us and is believed to be correct. However, no warranty, merchantability, fitness for any use or any other warranty is expressed or to be implied regarding the accuracy of these data, the result to be obtained from the use thereof, the hazards connected with the use of the material, or that any such use will not infringe any patent. Since the information contained herein may be applied under conditions beyond our control and with which we may be unfamiliar, we do not assume any responsibility resulting from its use. This information is furnished upon the condition that the person receiving it shall make his own determination for the suitability of the material for his particular purposes.

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