

**1. Identification**

**Product identifier** RICOH Garment Enhancer Cartridge Type P1  
**Other means of identification**  
**SDS No.** 342821  
**Recommended use** The Image Formation of Printing Machine or Copier. ink product Ink Cartridge  
**Recommended restrictions** No other uses are advised.  
**Manufacturer/Importer/Supplier/Distributor information**  
**Company name** Ricoh USA, Inc.  
**Department** Environmental Sustainability and Product Compliance  
**Address** 2 Gatehall Drive, Suite 204 Parsippany, NJ 07054, U.S.A.  
**Phone** 1-973-882-2000 or 1-973-882-5218 (For product information)  
**Emergency Contact** 1-800-336-6737  
**E-mail** environmentinfo@ricoh-usa.com

**2. Hazard(s) identification**

**Physical hazards** Not classified.  
**Health hazards** Not classified.  
**Environmental hazards** Not classified.  
**OSHA defined hazards** Not classified.  
**Label elements**  
**Hazard symbol** None.  
**Signal word** None.  
**Hazard statement** The mixture does not meet the criteria for classification.  
**Precautionary statement**  
**Prevention** Not available.  
**Response** Not available.  
**Storage** Not available.  
**Disposal** Not available.  
**Hazard(s) not otherwise classified (HNOC)** None known.  
**Supplemental information** None.

**3. Composition/information on ingredients**

**Mixtures**

Chemical name	Common name and synonyms	CAS number	%
Calcium Nitrate Tetrahydrate		13477-34-4	30-60
Water		7732-18-5	15-40
Glycol		Confidential	10-30
Glycerol		56-81-5	7-13

**Composition comments** This product does not contain any of the following RoHS substances as ingredients. Cadmium, Hexavalent Chromium, Mercury, Lead, Polybrominated biphenyls (PBB), Polybrominated diphenyleters (PBDE), Phthalate esters (DEHP, BBP, DBP, and DIBP), SVHC (substances of very high concern: published by ECHA).

**4. First-aid measures**

**Inhalation** Move to fresh air. Get medical attention, if needed.  
**Skin contact** Wash off with soap and plenty of water. If skin irritation or rash occurs: Get medical advice/attention.  
**Eye contact** Rinse with plenty of water. If irritation persists get medical attention.

**Ingestion** Rinse mouth thoroughly. Get medical advice/attention if you feel unwell.  
**Most important symptoms/effects, acute and delayed** Not available.  
**Indication of immediate medical attention and special treatment needed** Treat symptomatically.

## 5. Fire-fighting measures

**Suitable extinguishing media** Water. Foam. Dry chemicals. Carbon dioxide (CO2).  
**Unsuitable extinguishing media** Not available.  
**Specific hazards arising from the chemical** Not applicable.  
**Special protective equipment and precautions for firefighters** Wear suitable protective equipment.  
**Specific methods** Use standard firefighting procedures and consider the hazards of other involved materials.

## 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures** Ensure adequate ventilation.  
**Methods and materials for containment and cleaning up** Wipe up with absorbent material (e.g. cloth, fleece). For waste disposal, see section 13 of the SDS.  
**Environmental precautions** Avoid discharge into drains, water courses or onto the ground.

## 7. Handling and storage

**Precautions for safe handling** Do not use in areas without adequate ventilation. Avoid contact with skin and eyes.  
**Conditions for safe storage, including any incompatibilities** Store at 5 - 35 °C and protect from sunlight.

## 8. Exposure controls/personal protection

### Occupational exposure limits

#### US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Glycerol (CAS 56-81-5)	PEL	5 mg/m <sup>3</sup>	Respirable fraction.
		15 mg/m <sup>3</sup>	Total dust.

#### US. OSHA Table Z-3 (29 CFR 1910.1000)

Components	Type	Value	Form
Glycerol (CAS 56-81-5)	TWA	5 mg/m <sup>3</sup>	Respirable fraction.
		15 mg/m <sup>3</sup>	Total dust.
		50 mppcf	Total dust.
		15 mppcf	Respirable fraction.

**Biological limit values** No biological exposure limits noted for the ingredient(s).

**Appropriate engineering controls** Provide adequate ventilation.

### Individual protection measures, such as personal protective equipment

**Eye/face protection** Wear appropriate protective goggles.

#### Skin protection

**Hand protection** Wear suitable gloves.

**Other** Wear suitable protective clothing.

**Respiratory protection** Wear suitable respiratory protection.

**Thermal hazards** Not applicable.

## 9. Physical and chemical properties

### Appearance

**Physical state** Liquid.

<b>Form</b>	Not available.
<b>Color</b>	Clear.
<b>Odor</b>	Slight characteristic odor
<b>Odor threshold</b>	Not available.
<b>pH</b>	>= 5 - <= 8
<b>Melting point/freezing point</b>	<32 °F (<0 °C)
<b>Initial boiling point and boiling range</b>	>212 °F (>100 °C)
<b>Flash point</b>	Not available.
<b>Evaporation rate</b>	Not available.
<b>Flammability (solid, gas)</b>	Not available.
<b>Upper/lower flammability or explosive limits</b>	
<b>Explosive limit - lower (%)</b>	Not available.
<b>Explosive limit - upper (%)</b>	Not available.
<b>Vapor pressure</b>	Not available.
<b>Vapor density</b>	Not available.
<b>Relative density</b>	Not available.
<b>Solubility(ies)</b>	
<b>Solubility (water)</b>	Easily soluble
<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Auto-ignition temperature</b>	Not available.
<b>Decomposition temperature</b>	Not available.
<b>Viscosity</b>	<10 mPa·s
<b>Other information</b>	
<b>Density</b>	>= 1.10 - <= 1.50 g/cm3

## 10. Stability and reactivity

<b>Reactivity</b>	The product is stable and non-reactive under normal conditions of use, storage and transport.
<b>Chemical stability</b>	Material is stable under normal conditions.
<b>Possibility of hazardous reactions</b>	None known.
<b>Conditions to avoid</b>	Sunlight. High temperatures.
<b>Incompatible materials</b>	None known.
<b>Hazardous decomposition products</b>	No dangerous reaction known under conditions of normal use.

## 11. Toxicological information

### Information on likely routes of exposure

<b>Inhalation</b>	Not available.
<b>Skin contact</b>	Not available.
<b>Eye contact</b>	Not available.
<b>Ingestion</b>	Not available.

**Symptoms related to the physical, chemical and toxicological characteristics** Not available.

### Information on toxicological effects

**Acute toxicity** Oral ATE> 5000 mg/kg

### Skin corrosion/irritation

#### Irritation Corrosion - Skin: P.I.I. value

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Result: Non-irritant

Notes: This information is based on toxicity data for similar materials and ingredients.

### Serious eye damage/eye irritation

### **Irritation Corrosion - Eye**

RICOH Garment Enhancer Cartridge Type P1

Result: Non-irritant

Notes: This information is based on toxicity data for similar materials and ingredients.

### **Respiratory or skin sensitization**

#### **Skin sensitization**

##### **Skin sensitization**

RICOH Garment Enhancer Cartridge Type P1

Result: Non-skingsensitive

Notes: This information is based on toxicity data for similar materials and ingredients.

**Germ cell mutagenicity** Not available.

##### **Germ cell mutagenicity: Ames test**

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Result: Negative

Notes: Results of an assay using five bacterial strains and six concentrations. Not conducted dose range-finding test.

### **Carcinogenicity**

#### **IARC Monographs. Overall Evaluation of Carcinogenicity**

Not listed.

#### **OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)**

Not listed.

#### **US. National Toxicology Program (NTP) Report on Carcinogens**

Not listed.

**Reproductive toxicity** Not available.

**Specific target organ toxicity - single exposure** Not available.

**Specific target organ toxicity - repeated exposure** Not available.

**Aspiration hazard** Not available.

## **12. Ecological information**

**Ecotoxicity** Based on available data, the classification criteria are not met for hazardous to the aquatic environment.

**Persistence and degradability** Not available.

**Bioaccumulative potential** Not available.

**Mobility in soil** Not available.

**Other adverse effects** Not available.

## **13. Disposal considerations**

**Disposal instructions** Dispose of contents/container in accordance with local/regional/national/international regulations.

**Waste from residues / unused products** Not available.

**Contaminated packaging** Not available.

## **14. Transport information**

### **DOT**

Not regulated as dangerous goods.

### **IATA**

Not regulated as dangerous goods.

### **IMDG**

Not regulated as dangerous goods.

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

## **15. Regulatory information**

### **US federal regulations**

#### **Toxic Substances Control Act (TSCA)**

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

Not regulated.

**CERCLA Hazardous Substance List (40 CFR 302.4)**

Not listed.

**SARA 304 Emergency release notification**

Not regulated.

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)**

Not listed.

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

**SARA 302 Extremely hazardous substance**

Not listed.

**SARA 311/312 Hazardous chemical** No

**SARA 313 (TRI reporting)**

Not regulated.

**Other federal regulations**

**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)**

Not regulated.

**Safe Drinking Water Act (SDWA)** Not regulated.

**FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace**

Glycerol (CAS 56-81-5)

Other Flavoring Substances with OSHA PEL's

**16. Other information, including date of preparation or last revision**

**Issue date** 03-03-2023

**Version #** 01

**References** ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices  
HSDB® - Hazardous Substances Data Bank  
Japan Society for Occupational Health, Recommendation of Occupational Exposure Limits  
JIS Z 7252:2019 Classification of chemicals based on "Globally Harmonized System of Classification and Labelling of Chemicals (GHS)"  
JIS Z 7253:2019 Hazard communication of chemicals based on GHS - Labelling and Safety Data Sheet (SDS)  
Taiwan. OELs. (Standards on Workplace Atmosphere of Dangerous and Hazardous Materials)  
National Toxicology Program (NTP) Report on Carcinogens  
US. IARC Monographs on Occupational Exposures to Chemical Agents

**Disclaimer** Not available.