

## Material Safety Data Sheet (ANSI form)

### Section1 : Chemical Product and Company Identification

Product Name : Photoconductor Unit Type320 (OPC)  
 General Use : The image formation of printing machine or copier.  
 MSDS Number : 400633  
 Company Name : Ricoh Americas Corporation  
 Department :  
 Address : 5 Dedrick Place, West Caldwell, NJ 07006  
 Telephone : 1-973-882-2000 or 1-973-882-5218 (For product information) or  
 Number : 1-800-336-6737 (For emergencies)  
 Telefax Number : 1-973-882-3959  
 E-mail : environmentinfo@ricoh-usa.com

### Section2 : Composition, Information on Ingredients

Ingredients CAS No./Common Name	Contents (%)	ACGIH (TLV)			OSHA (PEL)	
		TWA	STEL	C	TWA	C
7429-90-5 Al Substrate	>97	not applicable	not applicable	not applicable	not applicable	not applicable
Confidential Charge Transport Material	<1	N.A	N.A	N.A	N.A	N.A
Confidential Binder Resin	<1	N.A	N.A	N.A	N.A	N.A
Confidential Metal oxide	<1	N.A	N.A	N.A	N.A	N.A
Confidential Organic Pigment	<1	N.A	N.A	N.A	N.A	N.A

This product does not contain any of the following substances as ingredients.

Cadmium, Hexavalent Chromium, Mercury, Lead, Polybrominated biphenyls (PBB), Polybrominated diphenylethers (PBDE).

### Section3 : Hazards Identification

Emergency Overview				
<b>HMIS</b>	Health : 1	Flammabilit : 1	Reactivity : 0	PPE:See section 8
		y		
<b>NFPA</b>	Health : 1	Flammabilit : 1	Reactivity : 0	
		y		

#### The Most Important Hazards

##### Adverse Human Health Effects :

There are no significant hazards expected with intended use.

##### Potential Health Effects

##### Primary Entry Routes :

Inhalation ; No

Skin ; No

Ingestion ; No

##### Environmental Effects :

There are no significant hazards expected with intended use.

##### Physical and Chemical Hazards :

There are no significant hazards expected with intended use.

##### Specific Hazards :

There are no significant hazards expected with intended use.

##### Main Symptoms :

##### Acute Inhalation Toxicity

Under normal use conditions, there is no possibility to inhale the particle of photosensitive component.

##### Acute Oral Toxicity

Under normal use conditions, there is no possibility to swallow the particle of photosensitive component.

##### Acute Eye Irritation

Under normal use conditions, there is no possibility to enter into the eye.

##### Acute Skin Irritation

May be non-irritant.

##### Sensitization

May be non-sensitization.

##### Chronic Effect

Under normal use conditions, there is no possibility to inhale the particle of photosensitive component.

##### Carcinogenicity

This product has no danger of carcinogenicity. Because, as for this product, is a drum form, and is strongly adhered to an aluminum substrate; the particle of photosensitive component needs not to be released.

##### Medical Conditions Aggravated by Exposure

Not applicable

##### Classification of the Chemical Product

Not applicable

#### Section4 : First Aid Measures

Inhalation :

Not applicable

Skin Contact :

In case of contact with skin, there is no problem.

Eye Contact :

Not applicable

Ingestion :

Not applicable

Immediate Medical Attention :

Immediate medical attention is not required.

#### Section5 : Fire Fighting Measures

Flash Point (degrees centigrade) : Not applicable

Burning Rate (mm/sec) : Not available

Autoignition Temperature (degrees centigrade) : Not applicable

Flammable Limits(%) : LEL Not applicable UEL Not applicable

Extinguishing Media to Avoid :

Not applicable.

Specific Hazards :

Not applicable

Fire-Fighting Instructions / Specific Method :

No special fire protecting method is required. Sprinkling or fire extinguishers can be used.

Protection of Firefighters :

Wear gloves, glasses, a mask if necessary.

#### Section6 : Accidental Release Measures

Personal Precautions :

Not applicable

Environment Precautions :

Not applicable

Methods for Cleaning Up :

Not applicable

#### Section7 : Handling and Storage

Handling :

Technical Measures/Precautions

Not applicable

Safe Handling Advice

For the sake of quality, do not touch surface of photoreceptor.

Storage :

Technical Measures

Not applicable

Storage Conditions

Keep out of reach of children.

For the sake of quality store in dry and well-ventilated area it should not exceed 35 degrees centigrade for a long time and avoid direct sunlight.

Packaging material

Not applicable

Specific Use(s) :

Image formation in printing machines or copiers.

## Section8 : Exposure Controls/Personal Protection

### Technical measures :

Use adequate ventilation. None required with intended use.

### Control Parameters

#### Exposure Limit Value ( I )

USA OSHA PEL (TWA) : Not applicable

ACGIH TLV (TWA) : Not applicable

DFG MAK : Not applicable

### Personal Protection

#### Respiratory Protections (Specify Type)

None required in normal use.

#### Eye Protection

None required in normal use.

#### Protective Gloves

None required in normal use.

#### Protective Clothing or Equipment

None required in normal use.

#### Hygiene Measures

Wash hands after handling.

## Section9 : Physical and Chemical Properties

### Appearance

Physical state : Solid

Form : Drum

Colour : Navy blue

Odor : No odor

pH : Not applicable

Boiling Point (degrees centigrade) : Not applicable

Vapor Pressure (Pa) : Not applicable

Vapor Density (AIR=1) : Not applicable

Density (g/cm<sup>3</sup>) : 2.5-3.5 (as aluminum)

Formula Weight : Not applicable

Melting Point (degrees centigrade) : Not applicable

Decomposition temperature (degrees centigrade) : Not available

Viscosity (Pa s) : Not applicable

Volatile (%) : Below 0.1

Evaporation Rate (Butyl Acetate = 1) : Not applicable

Water Solubility (g/L) : Insoluble

Other solvent Solubility (g/L) : Not available

## Section10 : Stability and Reactivity

### Stability :

Stable

### Hazardous Reaction :

There is no significant hazardous reaction expected with intended use.

### Condition to Avoid :

Not applicable in normal use.

### Materials to Avoid :

Not applicable in normal use.

### Hazardous Polymerization :

None

### Hazardous Decomposition or Byproducts :

Decomposition products will not occur.

## Section11 : Toxicological Information

### Acute Toxicity

Acute Oral Toxicity (LD50) :

Not available

Acute Dermal Toxicity :

Not available

Acute Inhalation Toxicity :

Not applicable

### Local effects

Acute Skin Irritation(PII) :

Not available

Acute Eye Irritation :

Not applicable

### Sensitization

Acute Allergenic Effects :

Not available

### Specific Effects

Carcinogenicity :

This product has no danger of carcinogenicity. Because, as for this product, is a drum form, and is strongly adhered to an aluminum substrate; the particle of photosensitive component needs not to be released.

Mutagenicity : Negative (Based on other product test results of similar ingredients.)

Reproduction Toxicity : Does not contain substances listed as hazardous to reproductive health.

Teratogenic : Not available

## Section12 : Ecological Information

Mobility : No data are available on the adverse effect one environment.

Persistence/Degradability : Not available

y

Bioaccumulation : Not known in bioaccumulation.

### Ecotoxicity

Acute Toxicity for Fish (LC50) : Not available

Acute Toxicity for Daphnia : Not available

(EC50)

Algae Inhibition Test (IC50) : Not available

### Section13 : Disposal Consideration

#### General information:

Used drum should be disposed in an environmentally appropriate manner and accordance with governmental regulations.

#### Disposal methods:

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. Confirm disposal procedures with local regulations.

#### Precautions

Not applicable

### Section14 : Transport Information

#### International Regulations

##### Land Transport

RID/ADR : Not applicable  
DOT 49 CFR : Not applicable  
ADNR : Not applicable

##### Sea Transport

IMDG Code : Not applicable

##### Air Transport

ICAO-TI/IATA-DGR : Not applicable  
UN Number : Not applicable  
Class : Not applicable

#### Specific Precautionary Transport Measures and Conditions

Keep it in cool and dry storage and avoid direct sun for quality.

### Section15 : Regulatory Information

#### Regulations

##### US Information

Information on the label : Not required

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

This product complies with all applicable rules and regulations under TSCA.

##### SARA (Superfund Amendments and Reauthorization Act) Title III

313 Reportable Ingredients : Not regulated

##### California Proposition 65 : Not regulated

##### Canada Information

WHMIS Controlled product : Not a controlled product

##### EU Information

Information on the label (1999/45/EC and 67/548/EEC)

Symbol & Indication : Not required

R-Phrase : Not required

S-Phrase : Not required

Special Precautions under 1999/45/EC Annex V : Not required

##### 76/769/EEC

This product complies with applicable rules and regulations under 76/769/EEC

## Section 16 : Other Information

Explanation of Hazardous Materials Identification System [HMIS]& National Fire Protection Association [NFPA] Hazard Rating Systems:

Both the HMIS and NFPA systems use number from "0" to "4" to show the degree of hazard in an uncontrolled situation:

**0=Minimum Hazard 1=Slight Hazard 2=Moderate Hazard 3=Serious Hazard 4=Severe Hazard**

Colors may also be used in both systems:

**Blue=Health Hazard Red=Fire Hazard Yellow=Reactivity Hazard White=Indicate a special hazard**

HMIS will specify any Personal Protective Equipment required [PPE],

NFPA will specify OX(oxidizer), Acid(acid), ALK(Alkali), COR(Corrosive), W(use no water), xx(Radioactive).

Literature References :

ANSI Z400.1-1993

ISO 11014-1

Commission Directive 91/155/EEC

IARC (1996) "IARC Monograph on the Evaluation of the Carcinogenic Risk of Chemicals to Humans, Vol.65, Printing Process and Printing Inks, Carbon Black and Some Nitro Compounds", Lyon, pp149-261

H.Muhle, B.Bellman, O.Creutzenberg, C.Dasenbrock, H.Emst, R.Kilpper, J.C.MacKenzie, P.Morrow, U.Mohr, S.Takenaka and R.Mermelstein(1991) "Pulmonary Response to Toner upon Chronic Inhalation Exposure in Rats" Fundamental and Applied Toxicology 17,pp280-299

IARC (2008) "IARC Monograph on the Evaluation of the Carcinogenic Risk of Chemicals to Humans, Vol.93"

NIOSH CURRENT INTELLIGENCE BULLETIN "Evaluation of Health Hazard and Recommendation for Occupational Exposure to Titanium Dioxide DRAFT"

ACGIH-TLV : Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices

OSHA Z-Tables : US Department of Labor, 29CFR Part 1910 , Tables Z-1, Z-2, and Z-3

NTP (USA) : US Department of Health and Human Services National Toxicology Program Annual Report on Carcinogens  
DFG-MAK GER: DFG List of MAK and BAT Value

Symbol (EC) : EU Directive 67/548/EEC

91/155/ EEC : EU Directive 91/155/ EEC

1999/45/EC Annex V : EU Directive 1999/45/EC

76/769/EEC : EU Directive 76/769/EEC

EC 304/2003 : Regulation (EC) No 304/2003 of the European Parliament and of the Council of 28 January 2003 concerning the export and import of dangerous chemicals

WHMIS Controlled product : Canada Workplace Hazardous Information System

OELs-TWA (Australia) : Guidance Note on the Interpretation of Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC: 3008 (1995)]

Abbreviations :

OSHA PEL PEL (Permissible Exposure Limit) under Occupational Safety and Health Act

ACGIH-TLV TLV (Threshold Limit Values) under American Conference of Governmental Industrial Hygienists

DFG-MAK MAK (Maximale Arbeitsplatz Konzentrationen) by Deutsche Forschungs Gemeinschaft

RoHS Restriction of the use of certain Hazardous Substances in Electrical and Electronic Equipment

TWA Time Weighted Average

IARC International Agency for Research on Cancer

NTP National Toxicology Program

WHMIS Workplace Hazardous Information System

NOHSC National Occupational Health and Safety Commission Act 1985

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