

Safety Data Sheet

Section 1 :Chemical Product and Company Identification
--

- (a) Product identifier used on the label
Product Name : [DEVELOPER YELLOW D1949680 \(Yellow developer\)](#) ([Yellow developer](#))
- (b) Other means of identification
SDS Number : [635209](#)
- (c) Recommended use of the chemical and restrictions on use
General Use : [The Image Formation of Printing Machine or Copier](#)
- (d) Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party
Company Name : [Ricoh USA, Inc](#)
Department : [Sustainability Management Center](#)
Address : [2 Gatehall Drive, Parsippany, NJ 07054 USA](#)
- (e) Emergency phone number.
Telephone : [1-973-882-2000 \(for product information\)](#) or
Number : [1-800-336-6737 \(for emergencies\)](#)
Telefax Number : [1-973-882-3959](#)
E-mail : Environmentinfo@ricoh-usa.com

Section2 : Hazards Identification

Classification

PHYSICAL HAZARD(S)	EXPLOSIVES	Classification not possible
	FLAMMABLE GASES	Not Applicable
	FLAMMABLE AEROSOLS	Not Applicable
	OXIDIZING GASES	Not Applicable
	GASES UNDER PRESSURE	Not Applicable
	FLAMMABLE LIQUIDS	Not Applicable
	FLAMMABLE SOLIDS	Classification not possible
	SELF-REACTIVE SUBSTANCES AND MIXTURES	Not Applicable
	PYROPHORIC LIQUIDS	Not Applicable
	PYROPHORIC SOLIDS	Classification not possible
	SELF-HEATING SUBSTANCES AND MIXTURES	Classification not possible
	SUBSTANCES AND MIXTURES, WHICH ON CONTACT WITH WATER, EMIT FLAMMABLE GASES	Classification not possible
	OXIDIZING LIQUIDS	Not Applicable
	OXIDIZING SOLIDS	Classification not possible
	ORGANIC PEROXIDES	Classification not possible
CORROSIVE TO METALS	Classification not possible	
HEALTH HAZARD(S)	ACUTE TOXICITY(ORAL)	Not Classified
	ACUTE TOXICITY(DERMAL)	Classification not possible
	ACUTE TOXICITY (INHALATION - GAS)	Not Applicable
	ACUTE TOXICITY (INHALATION - VAPOUR)	Not Applicable
	ACUTE TOXICITY (INHALATION - DUST AND MIST)	Classification not possible
	SKIN CORROSION/IRRITATION	Not Classified
	SERIOUS EYE DAMAGE/EYE IRRITATION	Classification not possible
	RESPIRATORY SENSITIZER	Classification not possible
	SKIN SENSITIZER	Not Classified
	GERM CELL MUTAGENICITY	Classification not possible
	CARCINOGENICITY	Classification not possible
	TOXIC TO REPRODUCTION	Classification not possible
	TARGET ORGAN SYSTEMIC TOXICITY FOLLOWING SINGLE EXPOSURE	Classification not possible
TARGET ORGAN SYSTEMIC TOXICITY FOLLOWING REPEAT EXPOSURE	Classification not possible	
ASPIRATION HAZARD	Classification not possible	
ENVIRONMENTSL HAZARD(S)	ACUTE HAZARDS TO THE AQUATIC ENVIRONMENT	Classification not possible
	CHRONIC HAZARDS TO THE AQUATIC ENVIRONMENT	Classification not possible
	HAZARDOUS TO THE OZONE LAYER	Classification not possible

Label element

Pictogram :	
Signal word(s):	Not applicable
Hazard statement(s):	Not applicable
Precautionary statement(s)	
【Prevention】	Not applicable
【Response】	Not applicable
【Storage】	Not applicable
【Disposal】	Not applicable

Specific Hazards

Dust explosion (like most finely divided organic powders)

Section3 : Composition, Information on Ingredients

Ingredients CAS No./Chemical name	Contents (%)
66402-68-4 Ferrite (Iron Oxide 50~90%、Manganese Oxide 14~45%)	60-100
Confidential Polyester Resin	1-20
Confidential Organic Pigment	0.1-1
1344-28-1 Aluminum Oxide	1-20
Confidential Tin Compound	1-20

Section4 : First Aid Measures

- (a) Necessary measures
- Inhalation :
Remove from exposure into fresh air and rinse mouth with water. Seek medical advice.
- Skin Contact :
Wash thoroughly with soapy water.
- Eye Contact :
Flush with a large amount of water until particles are removed. Seek medical advice.
- Ingestion :
Drink several glasses of water to dilute ingested toner. Seek medical advice.
- (b) Most important symptoms/effects, acute and delayed.
Not available
- (c) Indication of immediate medical attention and special treatment needed.
Immediate Medical Attention :
Immediate medical attention is not required.

Section5 : Fire Fighting Measures

- (a) Suitable (and unsuitable) extinguishing media.
Extinguishing Media to Avoid :
Not applicable.
- (b) Specific hazards arising from the chemical (e.g., nature of any hazardous combustion products).
Specific Hazards :
Can form explosive dust-air mixtures when finely dispersed in air.
- (c) Special protective equipment and precautions for fire-fighters.
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

- (a) Personal precautions, protective equipment, and emergency procedures.
Personal Precautions :
Do not breathe in dust.
Environment Precautions :
Do not flush into sewers or watercourses.
- (b) Methods and materials for containment and cleaning up.
Methods for Cleaning Up :
Confirm there is no source of fire and if there is a source, remove it. Sweep slowly spilled powder and clean remainder with wet cloth.

Section7 : Handling and Storage

- (a) Precautions for safe handling.
Handling :
Technical Measures/Precautions
Not applicable
Safe Handling Advice
Do not handle in areas where there is wind or draught, this may cause dust to get into eyes.
Avoid breathing in dust.
- (b) Conditions for safe storage, including any incompatibilities.
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

(a) OSHA permissible exposure limit (PEL), American Conference of Governmental Industrial Hygienists (ACGIH)

Threshold Limit Value (TLV), and any other exposure limit

Control Parameters

Exposure Limit Value (I)

USA OSHA PEL (TWA) : 15mg/m³ (Total dust) 5.0mg/m³ (Respirable fraction)

ACGIH TLV (TWA) : 10mg/m³ (Inhalable fraction) 3.0mg/m³ (Respirable fraction)

DFG MAK : 4.0mg/m³ (Total dust) 1.5mg/m³ (Respirable fraction)

Personal Protection

(b) Appropriate engineering controls.

Technical measures :

Use adequate ventilation. None required with intended use.

(c) Individual protection measures, such as personal protective equipment.

Respiratory Protections (Specify Type)

None required in normal use. If the limit of exposure concentration is exceeded, use authorised respirator.

Eye Protection

Put on goggles if necessary.

Protective Gloves

Use vinyl or rubber gloves if necessary.

Protective Clothing or Equipment

Wear chemical-resistant apron or other impervious clothing if necessary.

Hygiene Measures

Wash hands after handling.

Section9 : Physical and Chemical Properties

(a) Appearance (physical state, color, etc.)

Physical state : Solid

Form : Powder

Colour : Yellow

(b) Odor : Slightly plastic odor

(c) Odor threshold : Not available

(d) pH : Not applicable

(e) Melting point/freezing point : (Softening point) Approx.110
(degrees centigrade)

(f) Initial boiling point and boiling range : Not applicable

(g) Flash point : Not applicable

(h) Evaporation Rate (Butyl Acetate = 1) : Not applicable

(i) Flammability (solid, gas) : Not flammable

(j) Upper/lower flammability or explosive limits : Upper Not available Lower Not available

(k) Vapor Pressure (Pa) : Not applicable

(l) Vapor Density (AIR=1) : Not applicable

(m) Relative density : Approx. 5

(n) Solubility(ies)

Water Solubility (g/L) Insoluble

(o) Partition coefficient: n-octanol/water : Not available

(p) Auto-ignition temperature : Not applicable

(q) Decomposition temperature (degrees centigrade) : Not available

(r) Viscosity (Pa·s) : Not applicable

Section10 : Stability and Reactivity

- (a)Reactivity
Hazardous Reaction :
Dust explosion, like most finely grained organic powders.
- (b)Chemical stability :
Stable
- (c)Possibility of hazardous reactions :
Not available
- (d)Condition to Avoid :
Not applicable in normal use.
- (e)Incompatible materials :
Not applicable in normal use.
- (f)Hazardous decomposition products :
Decomposition products will not occur.

Section11 : Toxicological Information

- (a)Information on the likely routes of exposure (inhalation, ingestion, skin and eye contact)
ingestion
- (b)Symptoms related to the physical, chemical and toxicological characteristics
Not available
- (c)Delayed and immediate effects and also chronic effects from short- and long-term exposure
Not available
Acute Toxicity
Acute Oral Toxicity (LD50) :
5000 or over [mg/kg] (Rat) (Based on other product test results of similar ingredients.)
Acute Dermal Toxicity :
Not available (Ingredients are not classified as dangerous according to Regulation (EC) No 1272/2008.)
Acute Inhalation Toxicity :
Not available
Local effects
Acute Skin Irritation(PII) :
1.0 or below (Rabbit) (Based on other product test results of similar ingredients.)
Acute Eye Irritation :
Not available (Ingredients are not classified as dangerous according to Regulation (EC) No 1272/2008.)
Sensitization
Acute Allergenic Effects :
Non-skinsensitive (Mouse) (Based on other product test results of similar ingredients.)
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
- (d)Numerical measures of toxicity (such as acute toxicity estimates)
Not available
- (e)Whether the hazardous chemical is listed in the National Toxicology Program (NTP)
Report on Carcinogens (latest edition) or has been found to be a potential carcinogen
in the International Agency for Research on Cancer (IARC) Monographs (latest edition), or by OSHA.
This product does not contain the carcinogenic substances which are listed on NTP, IARC and OSHA.

Section12 : Ecological Information

- Mobility : No data are available on the adverse effect one environment.
- Persistence/Degradability : Not available
- Bioaccumulation : Not available
- Ecotoxicity
Acute Toxicity for Fish (LC50) : Not classified as toxic (Regulation (EC) No 1272/2008).
Acute Toxicity for Daphnia (EC50) : Not classified as toxic (Regulation (EC) No 1272/2008).
Algae Inhibition Test (IC50) : Not classified as toxic (Regulation (EC) No 1272/2008).

Section13 : Disposal Consideration

General information:

Used developer 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

Do not throw the cartridge or developer unit or plastic bag or developer into an open flame. Hot toner included in developer may scatter and cause burns or other damage.

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

Avoid direct sunlight in 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 ((EC) No.1272/2008))

Symbol & Indication : Not required

R-Phrase : Not required

S-Phrase : Not required

(EU) No.1907/2006 Annex XVII

This product complies with applicable rules and regulations under (EU) No.1907/2006 Annex XII

Section16 : 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) : Regulation (EC)No.1272/2008

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

CLP (EC)No.1272/2008 : Regulation (EC)No.1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures,amending and repealing Directive 67/548/EEC and 1999/45/EC, and amending Regulation (EC)No. 1907/2006

(EC)No.689/2008 : EU. Regulation EC No. 689/2008, Annex 1

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

REACH EC)No.1907/2006:Council Regulation concerning the Registration, Evaluation, Authorization and Restriction of Chemicals

SVHC Substances of Very High Concern

ECHA The European Chemicals Agency

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

Disclaimer(S) :

This information is furnished without warranty, expressed or implied, except that it is accurate to the best knowledge of Ricoh USA, Inc

It relates only to the specific material designated herein, and does not relate to use in combination with any other material or process.

Ricoh USA, Inc assumes no legal responsibility for use or reliance upon this information.