

1. Identification**Product identifier** InfoPrint 4100 Enhanced Printing Developer Version 5**Other means of identification****Product code** 56Y2501, 17R7726**Synonyms** Company Chemical No.: 940158550**Recommended use** Developer for use in InfoPrint printers.**Recommended restrictions** None known.**Manufacturer / Importer / Supplier / Distributor information****Company name** Ricoh Company Ltd.
Address 6300 Diagonal Highway
Boulder, Colorado 80301-9270
U.S.A.**Telephone** 1-866-213-4250**Website** www.infoprint.com**E-mail** msdsinfo@infoprint.com**Emergency phone number** 1-760-476-3961; Access: 333114**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** None.**Precautionary statement****Prevention** Observe good industrial hygiene practices.**Response** Get medical attention/advice if you feel unwell.**Storage** Store away from incompatible materials.**Disposal** Dispose of waste and residues in accordance with local authority requirements.**Hazard(s) not otherwise classified (HNOC)** Fine particles may form explosive mixtures with air.**3. Composition/information on ingredients****Mixtures**

Chemical name	CAS number	%
Triiron tetraoxide	1317-61-9	85
Iron oxide	1309-37-1	30
Magnesium oxide	1309-48-4	4
Carbon black	1333-86-4	1.8

Composition comments All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume. However, Carbon black is not classified as hazardous when bound in toner polymers.**4. First-aid measures****Inhalation** If symptomatic, move to fresh air. Get medical attention if any discomfort continues.**Skin contact** Wash skin with soap and water. Should dermal irritation or dermal sensitization occur, seek medical attention.**Eye contact** Do not rub eyes. Flush thoroughly with water. If irritation occurs, get medical assistance.

Ingestion Rinse mouth thoroughly if dust is ingested. Get medical attention if any discomfort continues.
Most important symptoms/effects, acute and delayed May cause abdominal discomfort if swallowed.

5. Fire-fighting measures

Suitable extinguishing media Extinguish with foam, carbon dioxide, dry powder or water fog.

Unsuitable extinguishing media None.

Specific hazards arising from the chemical Dust may form explosive mixture with air.
Fire or high temperatures create: Carbon oxides. Unidentified organic compounds.

Special protective equipment and precautions for firefighters Selection of respiratory protection for firefighting: follow the general fire precautions indicated in the workplace.

Fire-fighting equipment/instructions Avoid dust formation.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures Wear necessary protective equipment.

Methods and materials for containment and cleaning up Sweep or scoop up and remove. Avoid dust formation. Avoid sparks and prevent accumulation of electrostatic charges. Collect and dispose of spillage as indicated in section 13 of the SDS. Inform authorities if large amounts are involved.

Environmental precautions Avoid discharge into water courses or onto the ground.

7. Handling and storage

Precautions for safe handling Avoid inhalation of dust and contact with skin and eyes. Use with adequate ventilation. Wear necessary protective equipment. Use personal protection as recommended in Section 8 of the SDS. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities Store in closed original container in a dry place. Keep away from heat, sparks and open flame. Store away from incompatible materials.

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
Carbon black (CAS 1333-86-4)	PEL	3.5 mg/m ³	
Iron oxide (CAS 1309-37-1)	PEL	10 mg/m ³	Fume.
Magnesium oxide (CAS 1309-48-4)	PEL	15 mg/m ³	Total particulate.

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Carbon black (CAS 1333-86-4)	TWA	3 mg/m ³	Inhalable fraction.
Iron oxide (CAS 1309-37-1)	TWA	5 mg/m ³	Respirable fraction.
Magnesium oxide (CAS 1309-48-4)	TWA	10 mg/m ³	Inhalable fraction.

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
Carbon black (CAS 1333-86-4)	TWA	0.1 mg/m ³	
Iron oxide (CAS 1309-37-1)	TWA	5 mg/m ³	Dust and fume.

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 If significant eye exposure is anticipated, the use of chemical safety goggles is recommended.

Skin protection

Hand protection If significant skin exposure is anticipated, appropriate gloves should be worn to prevent skin contact with this substance. Suitable gloves can be recommended by the glove supplier.

Other	No protection is ordinarily required under normal conditions of use.
Respiratory protection	No protection is ordinarily required under normal conditions of use and with adequate ventilation. During dust-raising work: If ventilation is insufficient, suitable respiratory protection must be provided.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
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.

9. Physical and chemical properties

Appearance

Physical state	Solid.
Form	Powder.
Color	Black.
Odor	Odorless.
Odor threshold	Not available.
pH	Not applicable.
Melting point/freezing point	Not applicable.
Initial boiling point and boiling range	Not applicable.
Flash point	Not applicable.
Evaporation rate	Not applicable.
Flammability (solid, gas)	Not available.

Upper/lower flammability or explosive limits

Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not applicable.
Vapor density	Not applicable.
Relative density	5 (Water = 1)
Solubility(ies)	
Solubility (water)	Negligible.
Partition coefficient (n-octanol/water)	Not applicable.
Auto-ignition temperature	Not applicable.
Decomposition temperature	Not available.
Viscosity	Not applicable.
Other information	
VOC (Weight %)	0 %

10. Stability and reactivity

Reactivity	The product is non-reactive under normal conditions of use, storage and transport.
Chemical stability	Stable under normal temperature conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Heat, sparks, flames.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Carbon oxides. Unidentified organic compounds.

11. Toxicological information

Information on likely routes of exposure

Ingestion	No harmful effects expected in amounts likely to be ingested by accident.
Inhalation	Respiratory tract irritation may occur with exposure to large amounts of dust.
Skin contact	Not known to Ricoh Production Print Solutions Company as a dermal irritant or dermal sensitizer.

Eye contact	May cause irritation through mechanical abrasion.
Symptoms related to the physical, chemical and toxicological characteristics	May cause discomfort if swallowed.
Information on toxicological effects	
Acute toxicity	As with exposure to high concentrations of any dust, irritation of the respiratory tract may occur. Persons with certain pre-existing upper respiratory disorders, such as bronchitis or asthma have an increased risk of irritation.
Skin corrosion/irritation	No data available.
Serious eye damage/eye irritation	May cause temporary eye irritation.
Respiratory or skin sensitization	
Respiratory sensitization	No data available.
Skin sensitization	Not known to Ricoh Production Print Solutions Company as a dermal irritant or dermal sensitizer.
Germ cell mutagenicity	No data available.
Carcinogenicity	Pure carbon black, a minor component of this product, is not classified as hazardous when bound in toner polymers.
IARC Monographs. Overall Evaluation of Carcinogenicity	
Carbon black (CAS 1333-86-4)	2B Possibly carcinogenic to humans.
Iron oxide (CAS 1309-37-1)	3 Not classifiable as to carcinogenicity to humans.
Reproductive toxicity	No data available.
Specific target organ toxicity - single exposure	No data available.
Specific target organ toxicity - repeated exposure	No data available.
Aspiration hazard	No data available.
Chronic effects	Chronic exposure may cause potential risk of irreversible pulmonary effects. Chronic exposure is highly unlikely when this product is used as intended.

12. Ecological information

Ecotoxicity	The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
Persistence and degradability	No data available.
Bioaccumulative potential	No data available.
Mobility in soil	No data available.
Mobility in general	The product is insoluble in water.
Other adverse effects	No data available.

13. Disposal considerations

Disposal instructions	Do not discharge into drains or the environment, please contact your local municipality / waste handler for disposal requirements.
Hazardous waste code	Not regulated.
Waste from residues / unused products	Dispose in accordance with all applicable regulations.
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied.

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 This product is not hazardous according to OSHA 29CFR 1910.1200.

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

Not regulated.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

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

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.

US state regulations WARNING: This product contains a chemical known to the State of California to cause cancer.

US. Massachusetts RTK - Substance List

Carbon black (CAS 1333-86-4)
Iron oxide (CAS 1309-37-1)
Magnesium oxide (CAS 1309-48-4)

US. New Jersey Worker and Community Right-to-Know Act

Carbon black (CAS 1333-86-4)
Iron oxide (CAS 1309-37-1)
Magnesium oxide (CAS 1309-48-4)

US. Pennsylvania Worker and Community Right-to-Know Law

Carbon black (CAS 1333-86-4)
Iron oxide (CAS 1309-37-1)
Magnesium oxide (CAS 1309-48-4)

US. Rhode Island RTK

Not regulated.

US. California Proposition 65

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

Carbon black (CAS 1333-86-4)

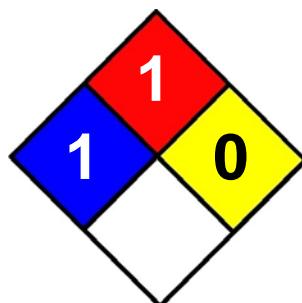
16. Other information, including date of preparation or last revision

Issue date 27-March-2014

Revision date -

Version # 01

NFPA Ratings



Disclaimer

The information provided on this SDS is correct to the best of Ricoh Production Print Solutions Company's knowledge, information, and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty, either express or implied, regarding the accuracy of the data or information contained herein. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

Ricoh, InfoPrint and the Infoprint logo are trademarks or registered trademarks of Ricoh Co., Ltd., in Japan, the United States and other countries, and are used under license from the trademark owner.