SDS No.: 2NHDY-KDAU-02-EN
Issue date: 21/10/2016
Revision date: 07/03/2017

SAFETY DATA SHEET

SECTION 1: Identification of the substance/mixture and of the company/undertaking

Product identifier

Product name : Yellow Developer for TASKalfa 7052ci, 8052ci

Consumable name : -

Relevant identified uses of the substance or mixture and uses advised against

Identified uses : The image formation of our electrophotographic equipments.
Other uses are not recommended.

Details of the supplier of the safety data sheet

Manufacturer : KYOCERA Document Solutions Inc.
Address : 1-2-28 Tamatsukuri, Chuo-ku, Osaka 540-8585, Japan
Supplier : KYOCERA Document Solutions Australia Pty. Ltd.
Address : Level 3, 6-10 Talavera Road,North Ryde,New South Wales 2113, Australia
Telephone number : +61-2-9888-9999

Emergency telephone number

: 131 126 (24 hours) Poison Information Centre.

SECTION 2: Hazards identification

Classification of the substance or mixture

Classification according to GHS under the WHS Regulations
: Not classified as hazardous mixture.

GHS label elements

: Not applicable.

Other hazards

See section 4 and 11 for information on health effects and symptoms.
See section 9 for dust explosion information.

SECTION 3: Composition/information on ingredients

Substance or Mixture: : Mixture

Chemical name	Identifier CAS No.	Weight%
Ferrite (Ferrite including manganese)	66402-68-4	85-95 (as Mn: 15-20)
Polyester resin (3 kinds)	Confidential	5-10
Titanium dioxide	13463-67-7	< 1

Information of Ingredients
See section 8 for the information of occupational exposure limits.

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SECTION 4: First aid measures

Description of first aid measures

Inhalation : Remove from exposure to fresh air and gargle with plenty of water.
Consult a doctor in case of such symptoms as coughing.

Skin Contact : Wash with soap and water.

Eye Contact : Flush with water immediately and see a doctor if irritating.

Ingestion : Rinse out the mouth. Drink one or two glasses of water to dilute.
Seek medical treatment if necessary.

Most important symptoms and effects, both acute and delayed

Potential health effects and symptoms

Inhalation : Prolonged inhalation of excessive dusts may cause lung damage.
Use of this product as intended does not result in prolonged inhalation of excessive toner dusts.

Skin contact : Unlikely to cause skin irritation.

Eye contact : May cause transient eye irritation.

Ingestion : Use of this product as intended does not result in ingestion.

Indication of any immediate medical attention and special treatment needed

: No additional information available.

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing media : Water spray, foam, powder, CO_2 or dry chemical.

Unsuitable extinguishing media : None specified.

Special hazards arising from the substance or mixture

Hazardous combustion products : Carbon dioxide. Carbon monoxide.

Advice for firefighters

Fire-fighting procedures : Pay attention not to blow away dust.
Drain water off around and decrease the atmosphere temperature to extinguish the fire.

Protective equipment for firefighters : None specified.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

: Avoid inhalation, ingestion, eye and skin contact in case of accidental release.
Avoid formation of dust. Provide adequate ventilation.

Environmental precautions

: Do not allow to enter into surface water or drains.

Methods and material for containment and cleaning up

Method for cleaning up : Gather the released powder not to blow away and wipe up with a wet cloth.

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SECTION 7: Handling and storage

Precautions for safe handling

: Do not attempt to force open or destroy the toner container or unit.
See installation guide of this product.

Conditions for safe storage, including any incompatibilities

: Keep the toner container or unit tightly closed and store in a cool, dry and dark place keeping away from fire. Keep out of the reach of children.

SECTION 8: Exposure controls/personal protection

Control parameters

(Reference data)

US ACGIH TLV (TWA)

Particles: 10 mg/m³ (Inhalable particles), 3 mg/m³ (Respirable particles)
Manganese inorganic compounds (Ferrite component): 0.1 mg/m³ (Inhalable fraction), 0.02 mg/m³ (Respirable fraction) (as Mn)
Titanium dioxide: 10 mg/m³

US OSHA PEL (TWA)

Particles: 15 mg/m³ (Total dust), 5 mg/m³ (Respirable fraction)
Manganese compounds (Ferrite component): 5 mg/m³ (Ceiling) (as Mn)
Titanium dioxide: 15 mg/m³ (Total dust)

Australian exposure standards : Workplace Exposure Standards for Airborne Contaminants, Appendix A

Manganese compounds (Ferrite component): TWA 1 mg/m³ (as Mn)
Titanium dioxide: TWA 10 mg/m³

Exposure controls

Appropriate engineering controls : Special ventilator is not required under normal intended use.
Use in a well ventilated area.

Personal protective equipment : Respiratory protection, eye protection, hand protection, skin and body protection are not required under normal intended use.

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SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance		
Physical state	:	Solid. (Fine powder)
Color	:	Yellow.
Odor	:	Odorless.
Odor threshold	:	No data available.
pH	:	No data available.
Melting point	:	No data available.
Initial boiling point and boiling range	:	No data available.
Flash point	:	No data available.
Evaporation rate	:	No data available.
Flammability (solid, gas)	:	No data available.
Upper/lower flammability or explosive limits	:	No data available.
Vapour pressure	:	No data available.
Vapour density	:	No data available.
Relative density	:	3.5-5.0 g/㎤
Solubility(ies)	:	Almost insoluble in water.
Partition coefficient: n-octanol/water	:	No data available.
Auto-ignition temperature	:	No data available.
Decomposition temperature	:	No data available.
Viscosity	:	No data available.
Explosive properties	:	No data available.
Oxidising properties	:	No data available.

Other information

Dust explosion properties : Dust explosion is improbable under normal intended use.
Experimental explosiveness of toner is classified into the same rank such kind of powder as flour, dry milk and resin powder according to the pressure rising speed.

SECTION 10: Stability and reactivity

Reactivity	:	No data available.
Chemical stability	:	This product is stable under normal conditions of use and storage.
Possibility of hazardous reactions	:	Hazardous reactions will not occur.
Conditions to avoid	:	None specified.
Incompatible materials	:	None specified.
Hazardous decomposition products	:	Hazardous decomposition products are not to be produced.

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SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity

Oral (LD_{50}) : > 2000 mg/kg (rat)
(Based on test result of similar product.) (Toner)
> 2000 mg/kg (rat)
(Based on test result of constituent materials.) (Carrier)

Dermal (LD_{50}) : No data available.
(Toner)
No data available.
(Carrier)

Inhalation (LC_{50} (4hr)) : > 5.10 mg/l (rat)
(Based on test result of similar product.) (Toner)

Skin corrosion/irritation

Acute skin irritation : Non-irritant (rabbit)
(Based on test result of similar product.) (Toner)
Non-irritant (rabbit)
(Based on test result of constituent materials.) (Carrier)

Serious eye damage/irritation

Acute eye irritation : Mild irritant (rabbit)
(Based on test result of similar product.) (Toner)

Respiratory or skin sensitisation

Skin sensitisation : Non-sensitiser (mouse)
(Based on test result of similar product.) (Toner)
Non-sensitiser
(Based on test result of constituent materials.) (Carrier)

Germ cell mutagenicity

: Ames Test is Negative.
(Based on test result of constituent materials.) (Toner)
Ames Test is Negative.
(Based on test result of constituent materials.) (Carrier)

Information of Ingredients : No mutagen, according to MAK, TRGS905 and (EC) No 1272/2008 Annex VI.

Carcinogenicity

Information of Ingredients : No carcinogen or potential carcinogen according to IARC, Japan Association on Industrial Health, ACGIH, EPA, OSHA, NTP, MAK, California Proposition 65, TRGS 905 and (EC) No 1272/2008 Annex VI.

(except titanium dioxide)
The IARC reevaluated titanium dioxide as a Group 2B carcinogen (possibly carcinogenic to humans) as the result of inhalation exposure test in rats. But, oral/skin test does not show carcinogenicity. (*2)
In the animal chronic inhalation studies for titanium dioxide, the lung tumor was observed in only rats. It is estimated that this is attributed to the overload of rat's lung clearance mechanism (overload phenomenon). (*3)
The inhalation of excessive titanium dioxide dose not occur in normal use of this product. Also, epidemiological studies to date have not revealed any evidence of the relation between occupational exposure to titanium dioxide and respiratory tract diseases.

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Reproductive toxicity

Information of Ingredients	:	No reproductive toxicant according to MAK, California Proposition 65, TRGS905 and (EC) No 1272/2008 Annex VI.
STOT-single exposure	:	No data available.
STOT-repeated exposure	:	No data available.
Aspiration hazard	:	No data available.
Chronic effects	:	In a study in rats by chronic inhalation exposure to a typical toner, a mild to moderate degree of lung fibrosis was observed in 92% of the rats in the high concentration (16 mg/m³) exposure group, and a minimal to mild degree of fibrosis was noted in 22% of the animal in the middle (4 mg/m³) exposure group. (*1) But no pulmonary change was reported in the lowest (1 mg/m³) exposure group, the most relevant level to potential human exposures.
Other information	:	No data available.

SECTION 12: Ecological information

Ecotoxicity	:	No data available.
Persistence and degradability	:	No data available.
Bioaccumulative potential	:	No data available.
Mobility in soil	:	No data available.
Other adverse effects	:	No additional information available.

SECTION 13: Disposal considerations

Waste treatment methods : Do not attempt to incinerate the toner container or unit and the waste toner yourself. Dangerous sparks may cause burn.
Any disposal practice should be done under conditions which meet local, state and federal laws and regulations relating to waste (contact local or state environmental agency for specific rules).

SECTION 14: Transport information

UN number	:	None.
UN proper shipping name	:	None.
Transport hazard class(es)	:	None.
Packing group	:	None.
Environmental hazards	:	None.
Special precautions for user	:	No additional information available.

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
: Not applicable.

SECTION 15: Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture

US regulations

All ingredients in this product comply with order under TSCA.

Canada regulations

This product is not a WHMIS-controlled product, since we consider it as a Manufactured article.

EU regulations

This product is not classified as hazardous mixture according to Regulation (EC) No 1272/2008 (CLP).

This product does not contain substances which present a health or environmental hazard within the meaning of CLP.

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SECTION 16: Other information

To the best of our knowledge, the information contained herein is accurate. However, we cannot assume any liability whatsoever for the accuracy or completeness of the information contained herein.
The contents and format of this SDS are in accordance with Model Code of Practice for Preparation of Safety Data Sheets for Hazardous Chemicals.

Revision information	:	SECTION 11 (Germ cell mutagenicity).
Version	:	02
Issue date	:	21/10/2016
Revision date	:	07/03/2017
Abbreviations and acronyms		
GHS	:	Globally Harmonized System of Classification and Labelling of Chemicals
CAS	:	Chemical Abstracts Service
WHS	:	Work Health and Safety (Australia)
ACGIH	:	American Conference of Governmental Industrial Hygienists 2016 TLVs and BEIs (Threshold Limit Values for Chemical Substances and Physica Agents and Biological Exposure Indices)
OSHA	:	Occupational Safety and Health Administration (29 CFR Part 1910 Subpart Z)
TLV	:	Threshold Limit Values
PEL	:	Permissible Exposure Limits
TWA	:	Time Weighted Average
UN	:	United Nations
IARC	:	International Agency for Research on Cancer (IARC Monographs on the Evaluations of Carcinogenic Risks to Humans)
EPA	:	Environmental Protection Agency (Integrated Risk Information System) (US)
NTP	:	National Toxicology Program (Report on Carcinogens) (US)
MAK	:	Maximale Arbeitsplatz-Konzentrationen (List of MAK and BAT Values 2011) (DFG: Deutsche Forschungsgemeinschaft)
Proposition 65	:	California, Safe Drinking Water and Toxic Enforcement Act of 1986
TRGS905	:	Technische Regeln für Gefahrstoffe (Deutschland)
STOT	:	Specific target organ toxicity
TSCA	:	Toxic Substances Control Act (US)
WHMIS	:	Workplace Hazardous Materials Information System (Canada)
CLP	:	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures

Key literature references and sources for data

(*1) Pulmonary Response to Toner upon Chronic Inhalation Exposure in Rats H.Muhle et.al Fundamental and Applied Toxicology 17.280-299(1991)
Lung Clearance and Retention of Toner, Utilizing a Tracer Technique, during Chronic Inhalation Exposure in Rats B.Bellmann Fundamental and Applied Toxicology 17.300-313(1991)
(*2) IARC Monograph on the Evaluation of the Carcinogenic Risk of Chemicals to Humans, Vol.93
(*3) NIOSH CURRENT INTELLIGENCE BULLETIN "Evaluation of Health Hazard and Recommendation for Occupational Exposure to Titanium Dioxide DRAFT"