

1. Identification of the Substance/Preparation and of the Company/Undertaking

Product identifier**Product name** K-RAY® SM Molten Metal**Recommended use of the chemical and restrictions on use****Recommended use** Coloring agent.
Uses advised against No information available**Details of the supplier of the safety data sheet****Supplier address**
Kobo Products, Inc.
3474 South Clinton Avenue
South Plainfield, NJ 07080 USA
Telephone: 1-908-757-0033**Emergency telephone number****Emergency telephone** Chemtrec 1-800-424-9300

2. Hazards Identification

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Carcinogenicity	Category 2
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Label elements**EMERGENCY OVERVIEW****WARNING****Hazard statements**

Suspected of causing cancer

**Appearance** Powder**Physical state** Solid**Odor** Characteristic**Precautionary Statements - Prevention**

Use personal protective equipment as required

Precautionary Statements - Response

IF exposed or concerned: Get medical advice/attention

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

None known

Other Information

No information available

3. Composition/information on Ingredients

Chemical name	CAS No	Weight-%
Synthetic Fluorophlogopite	12003-38-2	39.00-64.00
Silica	7631-86-9	20.00-30.00
Titanium Dioxide	13463-67-7	15.00-25.00
Iron Oxides (CI 77491)	1309-37-1	1.00-5.00

4. First aid measures**Description of first aid measures**

General advice	If symptoms persist, call a physician.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.
Inhalation	Remove to fresh air. If breathing is irregular or stopped, administer artificial respiration.
Ingestion	If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.
Self-protection of the first aider	Use personal protective equipment as required.

Most important symptoms and effects, both acute and delayed

Symptoms No known effects under normal use conditions.

Indication of any immediate medical attention and special treatment needed

Note to physicians Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed.

5. Fire-fighting measures**Suitable extinguishing media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media No information available.

Specific hazards arising from the chemical

None in particular.

Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

Protective equipment and precautions for firefighters

Use personal protective equipment as required.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions Use personal protective equipment as required. Avoid contact with eyes. Wash thoroughly after handling.

For emergency responders Use personal protective equipment as required.

Environmental precautions Collect spillage. Do not allow into any sewer, on the ground or into any body of water.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Avoid creating dust. Sweep up and shovel into suitable containers for disposal.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

7. Handling and Storage

Precautions for safe handling

Advice on safe handling Use personal protective equipment as required. Use only in well-ventilated areas. Wash thoroughly after handling.

Conditions for safe storage, including any incompatibilities

Storage conditions Keep container tightly closed in a dry and well-ventilated place. Store at ambient conditions.

Incompatible materials Strong oxidizing agents. Strong acids.

8. Exposure Controls/Personal Protection

Control parameters

Exposure guidelines

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Silica	No data available	TWA: 20 mppcf : (80)/(% SiO ₂) mg/m ³ TWA	IDLH: 3000 mg/m ³ TWA: 6 mg/m ³
Titanium Dioxide	TWA: 0.2 mg/m ³ nanoscale respirable particulate matter TWA: 2.5 mg/m ³ finescale respirable particulate matter	TWA: 15 mg/m ³ total dust (vacated) TWA: 10 mg/m ³ total dust	IDLH: 5000 mg/m ³
Iron Oxides (CI 77491)	TWA: 5 mg/m ³ respirable particulate matter	TWA: 10 mg/m ³ fume TWA: 15 mg/m ³ total dust TWA: 5 mg/m ³ respirable fraction (vacated) TWA: 10 mg/m ³ fume and total dust Iron oxide (vacated) TWA: 5 mg/m ³ respirable fraction regulated under Rouge	IDLH: 2500 mg/m ³ Fe dust and fume TWA: 5 mg/m ³ Fe dust and fume

Appropriate engineering controls

Engineering controls Ensure adequate ventilation, especially in confined areas.

Individual protection measures, such as personal protective equipment

Eye/face protection	Wear safety glasses with side shields (or goggles).
Skin and body protection	Wear protective gloves and protective clothing.
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment.
General hygiene considerations	Handle in accordance with good industrial hygiene and safety practice.

9. Physical and Chemical Properties**Information on basic physical and chemical properties**

Physical state	Solid	Odor	Characteristic
Appearance	Powder	Odor threshold	No information available
Color	Pink		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH		No information available
Melting point / freezing point		No information available
Boiling point / boiling range		No information available
Flash point		No information available
Evaporation rate		No information available
Flammability (solid, gas)		No information available
Flammability limit in air		
Upper flammability limit		No information available
Lower flammability limit		No information available
Vapor pressure		No information available
Vapor density		No information available
Specific gravity		No information available
Water solubility	Insoluble in water	
Solubility in other solvents		No information available
Partition coefficient		No information available
Autoignition temperature		No information available
Hyphen		No information available
Kinematic viscosity		No information available
Dynamic viscosity		No information available
Explosive properties		No information available
Oxidizing properties		No information available

Other information

Softening point	No information available
Molecular weight	No information available
VOC content	No information available
Density	No information available
Bulk density	No information available

10. Stability and Reactivity**Reactivity**

No data available

Chemical stability

Stable under normal conditions.

Possibility of hazardous reactions

None under normal processing.

Hazardous polymerization Hazardous polymerization does not occur.**Conditions to avoid**

None known.

Incompatible materials

Strong oxidizing agents. Strong acids.

Hazardous decomposition products

None under normal use conditions.

11. Toxicological Information**Information on likely routes of exposure****Product information**

Inhalation	No data available.
Eye contact	No data available.
Skin contact	No data available.
Ingestion	No data available.

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Synthetic Fluorophlogopite	-	-	> 5 mg/L (Rat) 4 h
Silica	= 7900 mg/kg (Rat)	> 5000 mg/kg (Rabbit)	> 58.8 mg/L (Rat) 4 h
Titanium Dioxide	> 10000 mg/kg (Rat)	-	= 5.09 mg/L (Rat) 4 h
Iron Oxides (CI 77491)	> 10000 mg/kg (Rat)	-	-

Symptoms related to the physical, chemical and toxicological characteristics**Symptoms** No information available.**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

Skin corrosion/irritation	No information available.
Serious eye damage/eye irritation	No information available.
Irritation	No information available.
Corrosivity	No information available.
Sensitization	No information available.
Germ cell mutagenicity	No information available.
Carcinogenicity	This product contains one or more substances which are classified by IARC as carcinogenic to humans (Group I), probably carcinogenic to humans (Group 2A) or possibly carcinogenic to humans (Group 2B).

Chemical name	ACGIH	IARC	NTP	OSHA
Titanium Dioxide	A3	Group 2B		X

IARC (International Agency for Research on Cancer)

Group 2B - Possibly Carcinogenic to Humans

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

X - Present

Reproductive toxicity	No information available.
STOT - single exposure	No information available.
STOT - repeated exposure	No information available.
Aspiration hazard	No information available.

12. Ecological Information

Ecotoxicity

Chemical name	Algae/aquatic plants	Fish	Crustacea
Silica	440: 72 h Pseudokicheriella subcapitata mg/L EC50	= 5000: 96 h Brachydanio rerio mg/L LC50 static	7600: 48 h Ceriodaphnia dubia mg/L EC50
Iron Oxides (CI 77491)		= 100000: 96 h Danio rerio mg/L LC50 static	

Persistence and degradability

No information available.

Bioaccumulation

No information available.

Other adverse effects

No information available

13. Disposal Considerations

Waste treatment methods

Disposal of wastes

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging

Disposal should be in accordance with applicable regional, national and local laws and regulations.

14. Transport Information

DOT Not regulated

ICAO (air) Not regulated

IATA Not regulated

IMDG Not regulated

RID Not regulated

ADR Not regulated

15. Regulatory information

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	Not Determined
IECSC	Complies
KECL	Complies
PICCS	Complies
AICS	Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

US Federal Regulations**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

Acute health hazard	No
Chronic Health Hazard	No
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

US State Regulations**California Proposition 65**

This product contains the following Proposition 65 chemicals

Chemical name	California Proposition 65
Titanium Dioxide	Carcinogen

U.S. State Right-to-Know Regulations

This product may contain substances regulated by state right-to-know regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Titanium Dioxide	X	X	X
Iron Oxides (CI 77491)	X	X	X

16. Other information

<u>NFPA</u>	Health hazards 1	Flammability 0	Instability 0	Special hazards -
<u>HMIS</u>	Health hazards 1	Flammability 0	Physical hazards 0	PERSONAL PROTECTION E

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Revision note**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet