December 30. 2016

Revised; February 21, 2018

Safety Data Sheet (SDS)

Products

Part Number	Name	Used in	Remarks
200-53656-01	Silica Gel	IRTracer-100/IRAffinity-1 series/ IRSpirit series	
200-53655	Silica Gel	IRTracer-100/IRAffinity-1 series/ IRSpirit series	

Silica Gel

1. Identification	Product name: Company: Address: Responsible department: Telephone: Fax:	Silica Gel Shimadzu Corporation 1, Nishinokyo-Kuwabaraco, Nakagyo-ku, Kyoto 604-8511 JAPAN Spectroscopy Business Unit, Analytical & Measuring Instrument Div. +81-75-823-1203 +81-75-823-4614
2. Hazards identification	Classification of the substance or mixture GHS label elements, including precautionary statements Hazards not otherwise classified (HNOC) or not covered by GHS	Not a hazardous substance or mixture. Not a hazardous substance or mixture. None
3. Composition/ information on ingredients	Substance/mixture: Components: Percent: CAS Number:: Chemical Formula: Notice Through Official Gazettes Reference Number ENCS:	Substance Silica Gel 99 to 100% 7631-86-9 $SiO_2 \cdot nH_2O$ (1)-548
4. First-aid measures	Description of first aid measures General advice If ingested	 Consult a qualified medical professional. Show this data sheet to the doctor in attendance. Move out of the dangerous area. Never give anything by mouth to an unconscious person. Give several glasses of water to drink to dilute. Do not induce vomiting. If large amounts are ingested, get

		medical advice.
	Skin contact	Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops.
	Eye contact	Flush eyes with plenty of water. Check for and remove any contact lenses if possible. Continue flushing eyes with water for at least 15 minutes. Get medical attention if irritation occurs.
	Inhalation	Move individual to fresh air. If breathing is difficult, get medical attention.
	Most important symptoms and effects, both acute and delayed	The most important known symptoms and effects are described in the labeling (see section 2.2) and/or section 11.
	Indication of any immediate medical attention and special treatment needed	No data available.
5. Fire-fighting measures	Extinguishing media	
	Suitable extinguishing media:	Any media suitable for the surrounding fire.
	Special hazards arising from the substance or mixture	
	Fire hazards:	Not considered to be a fire hazard
	Explosion hazards:	Not considered to be an explosion hazard
	Advice for firefighters	Use protective clothing and breathing equipment appropriate for the surrounding fire.
	Further information	No data available
6. Accidental release measures	Personal precautions, protective equipment and emergency procedures	Ensure adequate ventilation. For personal protection see section 8.
	Environmental precautions	No special precautions.
	Methods and materials for containment and cleaning up	Use appropriate tools to put the spilled solid in a convenient waste disposal container. Vacuuming or wet sweeping may be used to avoid dust dispersal. Dispose of material according to local and regional requirements.
7. Handling and storage	Precautions for safe handling	Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. When pouring into a container of flammable liquid, ground both containers electrically to prevent a static electric spark. Containers of the material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.
	Conditions for safe storage,	Suitable for any general chemical storage area.

		including any incompatibilities	Keep container tightly closed. Hygroscopic. Keep in a dry place. Storage class (TRGS 510): Non-combustible solids
		Specific end use(s)	Apart from the uses mentioned in section 1.2, no other specific uses are stipulated.
8.	Exposure controls / personal protection	Control parameters/exposure limits	
		NIOSH REL:	TWA 6 mg/m^3
		OSHA PEL:	TWA 20 mppcf (80 $mg/m^3/\%SiO_2$)
		Appropriate engineering controls	Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit. Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday. Facilities storing or handling this material should be equipped with an eyewash station.
		Personal protective equipment	Safety glasses, lab coat, gloves, and dust respirator. Be sure to use an NIOSH approved respirator or equivalent.
9.	Physical and chemical properties	Information on basic physical and chemical properties	
		Physical state:	Solid
		Color:	White, Translucent
		Odor:	Odorless
		Odor threshold:	No data available
		pH-value:	3.0 – 8.0 (in 5% slurry)
		Melting point:	610C (2930F)
		Freezing Point:	No data available
		Initial boiling point:	2230C (4046F)
		Flash point:	No data available
		Evaporation rate:	No data available
		Flammability (solid, gas):	Non-flammable
		Explosion limits:	No data available
		Vapor pressure:	Not applicable
		Vapor density:	Not applicable
		Relative density:	2.1 (Water = 1)
		Solubility:	Insoluble
		Partition coefficient:	No data available
		Auto-ignition temperature:	No data available
		Decomposition temperature:	No data available
		Viscosity:	No data available
10.	Stability and	Reactivity	Reacts with hydrogen fluoride, fluorine, oxygen difluoride,

reactivity		chlorine trifluoride, strong acids, strong bases, and oxidizers.
	Chemical stability	The product is stable under normal ambient and anticipated storage and handling conditions of temperature and storage.
	Conditions to avoid	Moisture, extreme heat, and incompatibles.
	Incompatible materials	This product is incompatible with with hydrogen fluoride, fluorine, oxygen difluoride, chlorine trifluoride, strong acids, strong bases, and oxidizers.
	Hazardous decomposition products	Oxides of carbon and silicon may be formed when heated to decomposition.
11. Toxicological information	Information on toxicological effect	
	Acute toxicity	No data available
	Inhalation:	No data available
	Ingestion:	No data available
	Dermal:	No special risk under normal use. Dusts of particulates may cause minor abrasion. May cause dryness.
	Skin corrosion/irritation	No special risk under normal use. Dusts of particulates may cause mechanical irritation, possibly including pain, tearing, and redness. Scratching of the cornea can occur if eye is rubbed.
	Serious eye damage/eye irritation	No special risk under normal use. Inhalation of airborne particulate may lead to mechanical irritation of the respiratory tract and mucous membranes.
	Respiratory or skin sensitization	No data available
	Germ cell mutagenicity	IARC: 3 – Group 3 - Not classifiable as to its carcinogenicity to humans (Silica-Amorphous, precipitated).
	Carcinogenicity	No data available
	Reproductive toxicity	
	Specific target organ toxicity	
	following single exposure	No data available
	following repeated exposure	No data available
	Aspiration hazard	Dust may irritate lungs. Amorphous silica does not produce silicosis.
	Information on likely routes of exposure	Inhalation and contact
12. Ecological information	Toxicity	No data available.
	Persistence and degradability	No data available.
	Bioaccumalative potential	No data available.
	Mobility in soil	No data available.
	Results of PBT and vPvB	No data available.

	assessment Other adverse effects	 No data available.
13. Disposal considerations	Waste treatment methods Product: Contaminated packaging:	 Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Dispose of in accordance with federal, state, and local environmental control regulations. Packaging may contain residual dust. Dispose of in accordance with federal, state, and local environmental control regulations.
14. Transport information	DOT (U.S.A.): IMDG: Transport hazard classes: Packing group: Environmental hazards: Transport in bulk: Special precautions for users:	Not a dangerous good. Not a dangerous good. Not applicable. Not applicable. See section 12. Not applicable. Not applicable.
15. Japanese regulatory information	ENCS:	(1)-548
16. Other information		

- This SDS was prepared sincerely on the basis of the information we could obtained, however, any warranty shall not be given regarding the data contained and the assessment of hazards and toxicity. Prior to use, please investigate not only the hazards and toxicity information but also the laws and regulations of the organization, area and country where the products are to be used, which shall be given the first priority.
- Some new information or amendments may be added later. If you have any questions, please feel free to contact us.
- The stated cautions are for normal handling only. In case of special handling, sufficient care should be taken, in addition to the safety measures suitable for the situation. All chemical products should be treated with the recognition of "having unknown hazards and toxicity", which differ greatly depending on the conditions and handling when in use and/or the conditions and duration of storage. The products must be handled only by those who are familiar with specialized knowledge and have experience or under the guidance of those specialists throughout use from opening to storage and disposal. Safe usage conditions shall be set up on each user's own responsibility.

February 21. 2018

Safety Data Sheet (SDS)

Products

Part Number	Name	Used in	Remarks
200-53656-01	Blue Silica Gel (Indicator Silica Gel)	IRTracer-100/IRAffinity-1 series/ IRSpirit series	
200-53655	Blue Silica Gel (Indicator Silica Gel)	IRTracer-100/IRAffinity-1 series/ IRSpirit series	

Blue Silica Gel (Indicator Silica Gel)

1. Identification	Product name: Company: Address: Responsible department: Telephone: Fax:	Blue Silica Gel (Indicator Silica Gel) Shimadzu Corporation 1, Nishinokyo-Kuwabaraco, Nakagyo-ku, Kyoto 604-8511 JAPAN Spectroscopy Business Unit, Analytical & Measuring Instrument Div. +81-75-823-1203 +81-75-823-4614	
2. Hazards identification	Classification of the substance or mixture GHS label elements, including precautionary statements Hazards not otherwise classified (HNOC) or not covered by GHS	Not a hazardous substance or mixture. Not a hazardous substance or mixture. None	
3. Composition/ information on ingredients	Substance/mixture: Components: Percent: CAS Number:: Chemical Formula: Notice Through Official Gazettes Reference Number ENCS:	Substance Silica Gel >99.7% 7631-86-9 $SiO_2 \cdot nH_2O$ (1)-548	 Neutral Red <0.3% 553-24-2 $C_{15}H_{16}N_4 \cdot HCl$ Not listed
4. First-aid measures	Description of first aid measures General advice If ingested	 Consult a qualified medical professional. Show this data sheet to the doctor in attendance. Move out of the dangerous area. Never give anything by mouth to an unconscious person. Give several glasses of water to drink to dilute. Do not induce vomiting. If large amounts are ingested, get medical advice.	

	Skin contact	Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops.
	Eye contact	Flush eyes with plenty of water. Check for and remove any contact lenses if possible. Continue flushing eyes with water for at least 15 minutes. Get medical attention if irritation occurs.
	Inhalation	Move individual to fresh air. If breathing is difficult, get medical attention.
	Most important symptoms and effects, both acute and delayed	The most important known symptoms and effects are described in the labeling (see section 2.2) and/or section 11.
	Indication of any immediate medical attention and special treatment needed	No data available.
5. Fire-fighting measures	Extinguishing media	
	Suitable extinguishing media:	Any media suitable for the surrounding fire.
	Special hazards arising from the substance or mixture	
	Fire hazards:	Not considered to be a fire hazard
	Explosion hazards:	Not considered to be an explosion hazard
	Advice for firefighters	Use protective clothing and breathing equipment appropriate for the surrounding fire.
	Further information	No data available
6. Accidental release measures	Personal precautions, protective equipment and emergency procedures	Ensure adequate ventilation. For personal protection see section 8.
	Environmental precautions	No special precautions.
	Methods and materials for containment and cleaning up	Use appropriate tools to put the spilled solid in a convenient waste disposal container. Vacuuming or wet sweeping may be used to avoid dust dispersal. Dispose of material according to local and regional requirements.
7. Handling and storage	Precautions for safe handling	Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. When pouring into a container of flammable liquid, ground both containers electrically to prevent a static electric spark. Containers of the material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.
	Conditions for safe storage, including any incompatibilities	Suitable for any general chemical storage area. Keep container tightly closed.

		Hygroscopic. Keep in a dry place. Storage class (TRGS 510): Non-combustible solids
	Specific end use(s)	Apart from the uses mentioned in section 1.2, no other specific uses are stipulated.
8. Exposure controls / personal protection	Control parameters/exposure limits	
	[Silica Gel]	
	NIOSH REL:	TWA 6 mg/m^3
	OSHA PEL:	TWA 20 mppcf (80 $mg/m^3/\%SiO_2$)
	[Neutral Red]	TWA 10 mg/m^3
	Appropriate engineering controls	Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit. Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday. Facilities storing or handling this material should be equipped with an eyewash station.
	Personal protective equipment	Safety glasses, lab coat, gloves, and dust respirator. Be sure to use an NIOSH approved respirator or equivalent.
9. Physical and chemical properties	Information on basic physical and chemical properties	
	Physical state:	Solid
	Color:	Blue
	Odor:	Odorless
	Odor threshold:	No data available
	pH-value:	5.5 – 9.0 (in 5% slurry)
	Melting point:	No data available
	Freezing Point:	No data available
	Initial boiling point:	No data available
	Flash point:	No data available
	Evaporation rate:	No data available
	Flammability (solid, gas):	Non-flammable
	Explosion limits:	No data available
	Vapor pressure:	Not applicable
	Vapor density:	Not applicable
	Relative density:	2.1 (Water = 1)
	Solubility:	Insoluble
	Partition coefficient:	No data available
	Auto-ignition temperature:	No data available
	Decomposition temperature:	No data available
	Viscosity:	No data available

10. Stability and reactivity	Reactivity	Reacts with hydrogen fluoride, fluorine, oxygen difluoride, chlorine trifluoride, strong acids, strong bases, and oxidizers.
	Chemical stability	The product is stable under normal ambient and anticipated storage and handling conditions of temperature and storage.
	Conditions to avoid	Moisture, extreme heat, and incompatibles.
	Incompatible materials	This product is incompatible with with hydrogen fluoride, fluorine, oxygen difluoride, chlorine trifluoride, strong acids, strong bases, and oxidizers.
	Hazardous decomposition products	Oxides of carbon and silicon may be formed when heated to decomposition.
11. Toxicological information	Information on toxicological effect	
	Acute toxicity	No data available
	Inhalation:	No data available
	Ingestion:	No data available
	Dermal:	No special risk under normal use. Dusts of particulates may cause minor abrasion. May cause dryness.
	Skin corrosion/irritation	No special risk under normal use. Dusts of particulates may cause mechanical irritation, possibly including pain, tearing, and redness. Scratching of the cornea can occur if eye is rubbed.
	Serious eye damage/eye irritation	No special risk under normal use. Inhalation of airborne particulate may lead to mechanical irritation of the respiratory tract and mucous membranes.
	Respiratory or skin sensitization	No data available
	Germ cell mutagenicity	IARC: 3 – Group 3 - Not classifiable as to its carcinogenicity to humans (Silica-Amorphous, precipitated).
	Carcinogenicity	No data available
	Reproductive toxicity	
	Specific target organ toxicity following single exposure	No data available
	following repeated exposure	No data available
	Aspiration hazard	Dust may irritate lungs. Amorphous silica does not produce silicosis.
	Information on likely routes of exposure	Inhalation and contact
12. Ecological information	Toxicity	No data available.
	Persistence and degradability	No data available.
	Bioaccumalative potential	No data available.
	Mobility in soil	No data available.

	Results of PBT and vPvB assessment Other adverse effects	No data available. No data available.
13. Disposal considerations	Waste treatment methods Product: Contaminated packaging:	 Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Dispose of in accordance with federal, state, and local environmental control regulations. Packaging may contain residual dust. Dispose of in accordance with federal, state, and local environmental control regulations.
14. Transport information	DOT (U.S.A.): IMDG: Transport hazard classes: Packing group: Environmental hazards: Transport in bulk: Special precautions for users:	Not a dangerous good. Not a dangerous good. Not applicable. Not applicable. See section 12. Not applicable. Not applicable.
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