

OPTIMUS INC. SAFETY DATA SHEET

ISSUED DATE MARCH 3, 2017
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MATERIAL SAFETY DATA SHEET (SDS) - FOR MIXTURE (FOR PAINT)

(1) PRODUCT AND COMPANY INFORMATION

PRODUCT NAME	OPTIMUS INTERIOR MEDICAL PAINT
COMPANY NAME	Hoei Sangyo Co. Ltd.,
ADDRESS	94, Ohnosiba-cho, Naka-ku, Sakai city, Osaka prefecture
DEPARTMENT IN CHARGE	Engineering Department
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(2) SUMMARY OF HAZARD

(GHS CLASSIFICATION)

Physical Hazards

Flammable liquids : Classification not possible

Health hazards

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation: gas)	: Not classified
Acute toxicity (inhalation: vapor)	: Not classified
Acute toxicity (inhalation: dust/mist)	: Not classified
Skin corrosion / irritation	: Not classified
Serious eye damage / eye irritation	: Category 2B
Respiratory sensitization	: Not classified
Skin sensitization	: Not classified
Germ cell mutagenicity	: Category 1
Carcinogenicity	: Category 2
Reproductive toxicity	: Category 1
Specific target organs /systemic toxicity (single exposure)	: Category 1
Specific target organs /systemic toxicity (repeated exposure)	: Category 1
Aspiration hazard category	: Classification not possible

Environmental hazard

Aquatic environmental toxicity : acute	: Category 3
Aquatic environment toxicity : chronic	: Category 4
Hazardous to the ozone layer	: Classification not possible

[GHS LABEL ELEMENTS]

Signal ward : Dangerous



[Hazardous information]

:Severe eye irritation.
:May cause genetic defects.
:Suspected of causing cancer.
:May damage fertility or the unborn child.
:May cause damage to organ.(Central nervous system, systemic toxicity, narcotic effects.)
:May cause damage to organ and through prolonged or repeated exposure.
(The liver, the blood system.)
:Harmful to aquatic life.
:May cause long-lasting harmful effects to aquatic life.



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INSTRUCTION

[Precaution]

- In the handling workspace, please provide a local exhaust system with no flames.
- Ventilation is good while handling, so as not to inhale steam, necessary.
- please respond accordingly to mask for organic gas or as mask for gas supply.
- Protective eyeglasses, protective gloves, long sleeve work clothes so as not to touch the eyes and the skin please wear it.
- After handling, please wash your hands and gargle thoroughly.

[First aid measures]

- In case of fire, please use carbon dioxide gas, foam, or powdered fire extinguishers.
- In case of contact with eyes, wash with plenty of water for at least 15 minutes, promptly doctor's diagnosis please receive.
- If you feel bad by inhaling steam, gas etc., clean air please rest at the place and receive a doctor's diagnosis if necessary.
- If it adheres to the skin, wash it off with soapy water, it will cause pain or appearance when there is a change, please consult a doctor promptly.
- In case of accidental swallowing, get medical attention immediately.

[Storage]

- Keep locked and stored.

[Leakage]

- If spilling from the container swipe it off with sand, cloth, or the like, please collect it in a container filled with water.

[Disposal]

- Contents and containers, specialized waste received permission from the prefectural governor please consign it to a processing company.

(3) COMPOSITION / INFORMATION ON INGREDIENTS

Distinction between chemical substance and mixtures

: Mixture

Chemical name or general name

: Emulsion paint for interior

ingredients	CAS.No	Content(wt%)	Ordinance on Industrial Safety and Health (Japan)
Acrylic silicon resin	Registered	15~20	
Dipropylene glycol monomethyl ether	34590-94-8	1~2	No. 2189
Additives		<8	
Titanium dioxide ※	13463-67-7	20~25	No. 623
IPA	67-63-0	3~4	No. 1780
Ag compound		1~2	
Zinc compound		<1	
Propylene glycol	57-55-6	<1	
Micro capsule		4~5	
Water		35~40	

※ Photocatalyst is included in titanium dioxide.

(4) FIRST AID MEASURES

After inhalation

- Inhale steam, gas if you feel sick immediately transfer to a fresh place of freshness, endeavour to rest and keep warm, medical attention promptly.

After skin contact

- Remove adhered clothes and shoes, while flowing water or cool water while adhering parts wash.
- Rinse thoroughly with plenty of water and soap or skin



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After eye contact

- Immediately remove all contaminated clothing.
- Immediately wash with plenty of clean running water for at least 15 minutes.
- Remove contact Lense when worm and can be removed easily.
- Wash thoroughly to the back of the eyelids.

After swallowing

- In case of accidental wallowing, wash the inside of the mouth with water, rest set up SDS immediately present and submit a doctors diagnosis.

Protection of first aiders

- Wear appropriate protective equipment (protective glasses, protective masks, gloves, etc) according to the situation.

(5) FIRE- FIGHTING MEASURES

Extinguishing media

- Water, carbon dioxide , foam , chemical powder , dry sand

Unsuitable extinguishing media

- Straight stream may spread a fire.

Specific fire extinguishing method: For initial fire, powder, carbon dioxide , etc. are used.

- In case of a large-scale fire, it is necessary to shut off the air using a foam etc. It is valid, in the case of a surrounding fire cool the surrounding equipment by spraying water.
- Transfer the movable container to a safe place in a prompt manner.
- Protection of firefighter: When extinguishing fire, wear air respirator, chemical protective clothing.

(6) ACCIDENTAL RELEASE MEASURES PERSONAL PRECAUTIONS

Protective equipment and emergency procedures.

- In the case of indoors, ventilate thoroughly until treatment is completed.
- Approach outside stakeholders by stretching a rope around the leaky place Ban.
- When handling the work, use protective equipment.
- (rubber gloves, protective eyeglasses, breathing protection, etc.) Do not wear and adhere to the skin or inhales gas / vapor.
- Work from the windward side and evacuate people leaning downwind.
- Prepare fire extinguishing equipment in case of ignition.
- In case of large amount, people are safely withdrawn.
- Environmental precautions: Be careful not to let spills enter the river etc
- In case of flowing into a river or the like, contact the fire department, river management department, waterworks bureau, public health centre, agricultural cooperative, fishery cooperative etc as necessary. : Appropriate measure such as reporting to the surrounding residents that a leak has occurred due to the occurrence of a bad smell etc.

Recovery

- In case of small amount, wipe with dry sand, sawdust, cloth etc, and collect it in a sealable container. Discard it later. : In case of a large amount , stop the flow path with blankets, sandbags, etc., and collect with a vacuum.

Containment and purification methods equipment: Stop leak if it is not dangerous.

- All equipment used when handling spills is grounded.

Measures to prevent secondary disasters: Remove nearby waste fire sources promptly, prepare fire extinguishers for ignition.



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(7) HANDLING AND STORAGE

Precaution for handling: Provide ventilation and wear protectors.

- Avoid exposing by supplying an appropriate protection tool and ventilator.
- Keep container tightly closed.
- Wear protects equipment while the work, avoid eye, skin, and clothing contact.
- Wash hand, face and well gargle after handling.

Precaution for storage.

- Avoid freezing, direct sunlight, keep in a well-ventilated place. Avoid overturn, fall-down.

Precaution for painting.

- Provide local exhaust ventilation or general ventilation. Avoid prolonged or repeated exposure.

(8) EXPOSURE CONTROLS AND PERSONAL PROTECTION

Adopted value, Control value

name	Control value	Adopted value	
Titanium dioxide	4mg/m ³	10mg/m ³	【ACGIH(TLV)】
IPA	200ppm	400ppm	【JSHO】

Equipment measures

- Use designated explosion-proof electricity, ventilation and lighting equipment.
- Take precautionary measures against electrostatic discharge.
- Ventilate for exhaust to keep airborne concentrations below exposure limits.: When mist occurs in the process at high temperature handling, control the air pollutant to the controlled concentration install a ventilator to keep it below
- Do not handle unless sealed equipment, equipment or local exhaust is used. To keep the air concentration below the recommended management concentration below, it is necessary to seal the process. use other equipment countermeasures.
- Store facial cleanser and safety shower in workspaces where this material is not stored and handled.

Respiratory protection

- Wear respiratory protective equipment (gas mask for organic gas, airline mask Hand protection.

Hand protection

- Wear oil resistant protective gloves.

Eye protection

- Wear safety glasses (ordinary glasses type, ordinary glasses type with side plate ,goggle type).

Skin and body protection

- Wear protective clothing (antistatic type) and protective shoes(antistatic type)

(9) PHYSICAL AND CHEMICAL PROPERTIES

SHAPE		LIQUID
COLOUR		WHITE
ODOR		SLIGHTLY ACRYLIC ODOR
PH VALUE		7.0-8.0
BOILING POINT		100C
MELTING POINT		0C
FREEZING POINT		0C
EXPLOSIVE RANGE		NO DATA
VAPOR PRESSURE		NO DATA
VAPOR DENSITY		NO DATA
DENSITY		0.9-1.0
SOLUBILITY		Soluble in water
N-OCTANOL/WATER(LOG VALUE)		NO DATA
AUTO IGNITION TEMPERATURE		NO DATA
DECOMPOSITION TEMPERATURE		NO DATA
FLAMMABILITY(SOLID,GAS)		NOT APPLICABLE



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(10) STABILITY AND REACTIVITY

STABILITY		Stable in the air at the normal temperature
REACTIVITY		Non-inflammable, CO, Nox gas occurs with combustion

(11) TOXICOLOGICAL INFORMATION

Substance	Acute Toxicity — Oral	Acute Toxicity — Dermal	Acute Toxicity — Inhalation (Vapors)	Acute Toxicity — Inhalation (Dusts, Mists)
Silver-based inorganic compound	LD50 > 2,000 mg/kg (mouse) — Category 5	—	—	—
IPA	LD50 = 5,480 mg/kg (rat)	LD50 = 12,870 mg/kg (rabbit)	LC50 = 72.6 mg/L (4 hr) (SDS, rat)	—

Substance	Skin Corrosion/Irritation	Serious Eye Damage/Eye Irritation	Respiratory Sensitization	Skin Sensitization
Silver-based inorganic compound	Negative (rabbit)	No data available	Insufficient data	Positive (guinea pig)
IPA	Rabbit skin irritation tests reported no irritation or only mild irritation	Rabbit eye irritation tests reported no mild to severe irritation — Category 2	Insufficient data	Unable to classify

Substance	Germ Cell Mutagenicity	Carcinogenicity	Reproductive Toxicity
Silver-based inorganic compound	Positive	No data available	No data available
IPA	Negative in an in vivo mouse bone marrow micronucleus test — Not classified	Not classified	Category 2

Substance	Specific Target Organ Toxicity — Single Exposure	Specific Target Organ Toxicity — Repeated Exposure	Aspiration Hazard
Silver-based inorganic compound	No data available	No data available	No data available
IPA	In humans, acute poisoning may cause central nervous system depression, gastrointestinal irritation, effects on the cardiovascular system, and systemic adverse effects	Effects have been observed in the respiratory system, liver, and spleen	Unable to classify

(12) ECOLOGICAL INFORMATION

General Precautions:

Exercise caution when handling, as leakage or disposal may adversely affect the environment. In particular, take measures to prevent the product or wash water from flowing directly onto the ground, into rivers, or into drainage channels.

Hazardous to the aquatic environment — Short-term (acute):

Not classified based on a 96-hour LC50 > 100 mg/L for fish (medaka) (Environmental Ecotoxicity Test, 1997).

Hazardous to the aquatic environment — Long-term (chronic):

Not classified because the substance is not poorly water-soluble (water solubility = 1.00×10^6 mg/L; PHYSPROP Database, 2005) and has low acute toxicity.

Ecotoxicity:

LC50 = 11,130 mg/L (96 hr), fathead minnow

Persistence and Degradability:

BOD = 201.68 g O₂/g (IPA 70%)

Mobility in Soil:

No information available.

Hazardous to the Ozone Layer:

No information available.



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(13) DISPOSAL CONSIDERATIONS

Residual waste :

When incinerating, observe relevant laws and regulations. In the case of disposal, collection and transporters of industrial waste received permission of the prefectural governor contract with the disposal company, the waste disposal law (waste disposal and cleaning law) and comply with relevant laws and regulations and properly process it.

Contaminated containers and packaging :

In case of discarding empty contaminated containers / packages, after completely removing the contents the prefectural governor . We contracted with industrial waste collection / transportation companies and disposal companies that received permission of the Waste Disposal Act (Waste Disposal and Public Cleansing Law) and regulation and laws and regulations properly

(14) TRANSPORT INFORMATION

International regulation		Not applicable
UN number		Not applicable
UN Class		Not applicable
Rail and road transportation information		Refer to applicable law and regulation.
Marine transportation information		Refer to applicable law and regulation.
Aviation transportation Information		Refer to applicable law and regulation.
Special safety measures		When transporting, make sure that the container does not leak, to prevent falling, or damage ensure prevention of loading and collapse of load. It is necessary to hold the yellow card when transporting. Do not transport with food and feed

(15) REGULATORY INFORMATION

Industrial Safety and Health Act (Japan):

Hazardous Substances Subject to Notification of Names, etc.(Article 57-2 of the Industrial Safety and Health Act)

Appended Table 2 of the Ordinance on Industrial Safety and Health:

- No. 623: Titanium dioxide
- No. 1780: Propyl alcohol
- No. 2189: 1-(2-Methoxy-2-methylethoxy)-2-propanol

Hazardous Substances Subject to Labeling of Names, etc.(Article 57, Paragraph 1 of the Industrial Safety and Health Act)

Appended Table 2 of the Ordinance on Industrial Safety and Health:

- No. 623: Titanium dioxide
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Act on the Assessment of Releases of Specified Chemical Substances in the Environment and the Promotion of Management of Such Substances (PRTR Act):

- Not applicable

Fire Service Act (Japan):

- Not applicable

Poisonous and Deleterious Substances Control Act (Japan):

- Not applicable

(16) OTHER INFORMATION (CITED DOCUMENTS, ETC.) REFERENCES CITED

Raw material data sheet (Japan Manufacturing Paint Association) MSDS guide book (for paint) (Japan Manufacturing Paint Association) Hazardous substance data book (Maruzen publishing) GHS classification result database.(National Institute of Technology and Evaluation)

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