

SAFETY DATA SHEET

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1. Identification

* Product name Solvent Based Varnish Spray KEYAKI

* Reference number 20607

* Company Washin Paint Co.,Ltd.

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* Section concerned Engineering Department

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* Product kind One-component polyurethane resin paint

* Principal use Wood paint

2. Hazards identification

[Classification]

Hazards	Category	Signal word
	Hazard statement	
Aerosols	Category 1	Danger
	Extremely flammable aerosol.	
Flammable liquids	Category 3	Warning
	flammable liquid and vapour.	
Acute toxicity Oral	Not classified	
Acute toxicity Dermal	Not classified	
Acute toxicity Gasas	Not classified	
Acute toxicity Vapours	Not classified	
Acute toxicity Mists	Not classified	
Skin corrosion/irritation	Category 2	Warning
	Causes skin irritation.	
Serious eye damage/eye irritation	Not classified	
Respiratory sensitization	Not classified	
Skin sensitization	Not classified	
Germ cell mutagenicity	Not classified	
Carcinogenicity	Not classified	
Reproductive toxicity	Not classified	
Specific target organ systemic toxicity Single exposure	Category 3	Warning
	May cause respiratory irritation ;or May cause drowsiness and dizziness.	
Specific target organ systemic toxicity Repeated exposure	Category 2	Warning
	May causes damage to organs state all organs affected, if known through prolonged or repeated exposure.	
Aspiration hazard	Not classified	
Hazardous to aquatic environment Acute	Category 2	
	Toxic to aquatic life.	
Hazardous to aquatic environment Chronic	Category 2	
	Toxic to aquatic life with long lasting effects.	
Hazardous to the ozone layer	Classification not possible	

- * If the signal word "Danger" applies, the signal word "Warning" should not appear.
- * For the details with "Specific target organ systemic toxicity", refer to "11.Toxicological information".

[Symbol]



[Precautionary statement]

(Prevention)

- * Obtain and understand special instructions before use.
- * Pressurized container: Do not pierce or burn, even after use.
- * Do not spray on an open flame or any white-hot material.
- * Keep away from ignition sources such as heat/sparks/open flame. – No smoking.
- * Store container tightly and avoid release to the environment.
- * Prevent the electro static discharge. Ground a container/carrier receptacle and so on.
- * Use the tools that sparks don't come out.
- * Avoid breathing vapours/mist/spray.
- * Don't eat, drink or smoke when using this product.
- * Wear protective gloves and eye/face protection when it needs.
- * Wash hands thoroughly and gargle after handling.
- * Paint adhered cloth, paint sluge and sprayed dust have the fear of the spontaneous combustion, so be flooded them until it disposes or burns them up every time at work.

(Response)

- * In case of fire, use carbon dioxide/powder/foams for extinction.
- * If inhaled: Remove to fresh air and keep at rest in a position comfortable for breathing.
Seek medical advice/attention if you feel unwell.
- * If in eyes: Rinse cautiously with water, get medical advice/attention.
- * If on skin or cloth: Wash with plenty of soap and water. Take off contaminated clothing and exchange it.
- * If skin irritation occurs, seek medical advice/attention.
- * If exposed or concerned: Get medical attention/advice.

(Storage)

- * Protect from sunlight and do not expose to temperatures exceeding 40 oC.
- * Store container tightly closed in the place which well-ventilated, cool and child doesn't reach.

(Disposal)

- * Don't dispose contents to the river and the sewage. Dispose after using them up.
- * Dispose container in accordance with local/regional/national regulation. Don't use another purpose.

3. Composition/information on ingredients

Property	Mixture			
Product kind	One-component polyurethane resin paint			
Chemical name	Weight (%)	CAS No.	Chemical structure	Notice duty
pigment	0~1	—	—	—
methyl isobutyl ketone	0~1	108-10-1	C6H12O	○
diacetonealcohol	0~1	123-42-2	C6H12O2	○
ethylbenzene	0.11	100-41-4	C8H10	○
additive	0~1	—	—	—
1-butanol	0~1	71-36-3	C4H9OH	○
toluene	0.23	108-88-3	C7H8	○
xylene	0.27	1330-20-7	C8H10	○
mesitylene	1.6	108-67-8	C9H12	○
n-nonane	1~5	111-84-2	C9H20	○
Light aromatic solvent naphtha	10~20	64742-95-6	—	○
mineral spirit	10~20	8052-41-3	—	○
resin	10~20	—	—	—
dimethyl ether	40~50	115-10-6	C2H6O	○
—	—	—	—	—

4. First-aid measures

(When swallowing)

- * Without making vomit by force, be rested and have a medical attention.
- * The vomit doesn't make swallow. Get medical attention.

(When inhaling)

- * Do the artificial respiration in case of breathing's being irregular or stopping.
- * The vomit doesn't make swallow.
- * Remove to fresh air and keep at rest in a position comfortable for breathing.
- Seek medical advice/attention if you feel unwell.

(When adhering to the skin)

- * Wipes up quickly with cloth and washes it off sufficiently using plenty of water and soap.
- Don't use organic solvent, thinner and so on.
- * If you get damage or feel pain, seek medical advice/attention.

(When entering eyes)

- * Wash for more than 15 minutes with a plenty of water at once.
- * Get a medical attention as fast as possible.

5. Fire-fighting measures

(Suitable extinguishing media)

- * Water (), Carbon dioxide (O), Foams (O), Powder (O), Dry sand (), Other (),

(Specific hazards arising from the chemical)

- * Liquid and vapour are extremely flammable.
- If they expose to heat, flame and an oxidizer, there is danger of intense fire.
- * When heated, there is a fear of intense burst of container by expansion or resolution.
- * When burning, there is possibility to make carbon monoxide occur.

(Specific extinguishing method)

- * Tell Fire Service the place and the dangerous/hazardous property.
- * Prevent outflow being in water pipe or watercourse.
- * Wear respiratory-protective-equipment and protective-glove.
- * Remove combustibles quickly from the surrounding area.
- * Uses the suitable extinguishing media.
- * Do fire fighting from the windward.
- * In preparation for a intense burst of container, do fire fighting from a safe distance.

(Special protective equipment and precautions for fire-fighters)

- * Wear respiratory-protective-equipment, chemical-defense clothes/glove/boots./glasses/mask as occasion demands.

6. Accidental release measures

(Personal precautions, protective equipment and emergency procedures)

- * Lead personnel to the windward from outflow areas.
- * Avoid the inhalation of vapour. Avoid the contact to the skin and eyes. Promote ventilation.
- * Wear protective equipments (gloves, protective mask, apron and goggles).

(Environmental precautions)

- * Prevent outflow being in water pipe or watercourse.
- * When water pipe or watercourse are polluted, contact organs concerned.

(Methods and materials for containment and cleaning up)

- * Remove ignition sources. Prohibit smoking and fire. Use the tools which don't spark.
- * Collects outflow to the container which can be shut, and move it to the safe place.
- * Prevent outflow using dry sand, earth or other incombustible material, and make absorb residue to collect it.
- * It may use water sprayer to absorb the diffusion of vapour.
- * Dispose wastes based on the regulations concerned.

7. Handling and storage

(Handling: Technical measure)

- * Handle this based on the related laws (Industrial Safety and Health Law, Fire Defense Law, etc.).
- * Follow the operation-standard, keep working atmosphere below TLV, promote ventilation.
- * When in working, wear antistatic work clothing, shoes.
- * Remove ignition sources, prohibit smoking and fire, Use tools which don't spark.
- * Ground equipments (transport, dip, stirring liquid) and use explosion-proof type electric equipments.
- * After handling, wash hands with soap water. It should wash work clothing separately.

(Handling: Notice)

- * Ground equipments and use explosion-proof type electric equipments.
- * Avoid contact with strong oxidizing reagent.
- * It has a fear of causing a reaction by heating, acidic material and alkaline material.
- * Use the container which has no damage, no corrosion and no breakage.
- * Gather used containers to the decided safekeeping place.

(Storage)

- * Follow the Fire Defense Law and so on because of flammable liquid.
- * Protect from sunlight and do not expose to temperatures exceeding 40 °C.
- * Don't store this product in a humid place to prevent bust by rust.
- * Store container tightly closed in the place which well-ventilated and cool.

8. Exposure controls/personal protection

Standard control concentration, threshold limit value etc.

(Control parameters e.g. occupational exposure limit values or biological limit values)

Chemical name	Standard control concentration	Threshold limit value	ACGIH (TLV)	PRTR
pigment	—	—	—	—
methyl isobutyl ketone	20ppm	50ppm	20ppm	—
diacetonealcohol	—	—	50ppm	—
ethylbenzene	20ppm	50ppm	20ppm	Class 1-53
additive	—	—	—	—
1-butanol	25ppm	50ppm	20ppm	—
toluene	20ppm	50ppm	20ppm	Class 1-300
xylene	50ppm	50ppm	100ppm	Class 1-80
mesitylene	—	25ppm	25ppm	Class 1-297
n-nonane	—	200ppm	200ppm	—
Light aromatic solvent naphtha	—	—	—	—
mineral spirit	—	—	100ppm	—
resin	—	—	—	—
dimethyl ether	—	—	—	—
—	—	—	—	—

[Equipment measure]

- * Set up sealed systems or local ventilation systems.
- * Set up safe shower, bathroom and face washing near the work area, and display the position.
- * Show the signs such like "INFRAMABLES" or "NO UNAUTHORIZED ENTRY".
- * When handling flammable liquid, there needs explosion-proof type ventilation equipments/systems.

(Protection measure)

- * As occasion demands, wear following guards appropriately.
air-supplied respirator, air SCBA, oxygen SCBA, chemical-cartridge respirator, protective glasses, protective gloves, protective boots, protective clothing,
- * Check protective equipments regularly by the check list.
- * Don't eat, drink or smoke when using this product.
- * Wash hands with soap before eat, drink or smoke.
- * The person who showed the symptom of the asthma once should not contact this chemical because he may cause the same symptom.
- * Contact lens bring about special harm.
Don't use soft contact lens because it absorbs irritant and has possibility to concentrate them.
- * Wear chemical-proof type protective gloves and antistatic protective shoes.

9. Physical and chemical properties

(Content fluid Physical state : Liquid)

Colour	Indicate in the product name	Density	0.90 g/mL(25°C)	Flash point	40 °C
Odour	Solvent odour	PH	Not correspond	Ignition point	210 °C
Boiling point Lower	150 °C	Solbility	Not sol. In water	Flammability or explosive limits	
Boiling point Upper	210 °C	Partiton coefficient	n-octanol/water	Lower	1 %
Vapour pressure	1000 Pa (ref.)		No data	Upper	7 %

(Propellant (dimethyl ether))

Colour	Transparent colorless	Density	0.66 g/mL(25°C)	Flash point	-41 °C
Odour	Chloroform like odour	PH	Not correspond	Ignition point	350 °C
Boiling point	-24.8 °C	Solbility	No data	Flammability or explosive limits	
		Partiton coefficient n-octanol/water		Lower	3.4 %
Vapour pressure	590616 Pa (ref.)		No data	Upper	26.7 %

10. Stability and reactivity

(Chemical stability)

- * The product seems to be stable.
- * It has a possibility of the dangerous/harmful reaction.
- * It reacts to the oxidizing materials.
- * Paint adhered cloth, paint sluge and sprayed dust have the fear of spontaneous combustion when it oxidize.

(Conditions to avoid)

- * Heating, Contact with the avoidance, Ignition source.
- * Degradation product which has dangerous/hazardous property.
- * Vapour of organic solvent.
- * Heat, light, metal powder and peroxide.

11. Toxicological information

Chemical name	Acute toxicity			
	Oral	Dermal	Gasas	Vapours
pigment	Classification not possible	Classification not possible	Not applicable	Classification not possible
methyl isobutyl ketone	Not classified	Not classified	Not applicable	Category 3
diacetonealcohol	Not classified	Not classified	Not applicable	Classification not possible
ethylbenzene	Not classified	Not classified	Not applicable	Category 4
additive	Classification not possible	Classification not possible	Not applicable	Classification not possible
1-butanol	Not classified	Not classified	Not applicable	Classification not possible
toluene	Not classified	Not classified	Not applicable	Category 4
xylene	Not classified	Category 4	Not applicable	Not classified
mesitylene	Not classified	Classification not possible	Not applicable	Classification not possible
n-nonane	Classification not possible	Classification not possible	Not applicable	Category 4
Light aromatic solvent naphtha	Not classified	Classification not possible	Not applicable	Classification not possible
mineral spirit	Not classified	Classification not possible	Not applicable	Classification not possible
resin	Not classified	Not classified	Not applicable	Not classified
dimethyl ether	Classification not possible	Classification not possible	Not classified	Not applicable
—	—	—	—	—

Chemical name	Acute toxicity	Skin corrosion/ irritation	Serious eye damage/ eye irritation	Respiratory sensitization
	Mists			
pigment	Classification not possible	Classification not possible	Classification not possible	Classification not possible
methyl isobutyl ketone	Classification not possible	Not classified	Category 2B	Classification not possible
diacetonealcohol	Classification not possible	Category 2	Category 2A	Classification not possible
ethylbenzene	Classification not possible	Not classified	Category 2B	Classification not possible
additive	Classification not possible	Classification not possible	Classification not possible	Classification not possible
1-butanol	Classification not possible	Category 2	Category 2A	Classification not possible
toluene	Classification not possible	Category 2	Category 2B	Classification not possible
xylene	Classification not possible	Category 2	Category 2	Classification not possible
mesitylene	Not classified	Category 2	Category 2B	Classification not possible
n-nonane	Not classified	Category 2	Category 2B	Classification not possible
Light aromatic solvent naphtha	Classification not possible	Classification not possible	Classification not possible	Classification not possible
mineral spirit	Classification not possible	Category 2	Not classified	Classification not possible
resin	Not classified	Not classified	Not classified	Not classified
dimethyl ether	Not applicable	Classification not possible	Classification not possible	Classification not possible
—	—	—	—	—

Chemical name	Skin sensitization	Germ cell mutagenicity	Carcinogenicity	Reproductive toxicity
pigment	Classification not possible	Classification not possible	Classification not possible	Classification not possible
methyl isobutyl ketone	Classification not possible	Classification not possible	Category 2	Classification not possible
diacetonealcohol	Classification not possible	Classification not possible	Classification not possible	Category 2
ethylbenzene	Classification not possible	Not classified	Category 2	Category 1B
additive	Classification not possible	Classification not possible	Classification not possible	Classification not possible
1-butanol	Classification not possible	Classification not possible	Classification not possible	Classification not possible
toluene	Not classified	Not classified	Not classified	Category 1A
xylene	Classification not possible	Not classified	Not classified	Category 1B
mesitylene	Classification not possible	Classification not possible	Classification not possible	Classification not possible
n-nonane	Classification not possible	Classification not possible	Classification not possible	Classification not possible
Light aromatic solvent naphtha	Classification not possible	Classification not possible	Classification not possible	Classification not possible
mineral spirit	Not classified	Not classified	Classification not possible	Not classified
resin	Not classified	Not classified	Not classified	Not classified
dimethyl ether	Classification not possible	Classification not possible	Classification not possible	Classification not possible
—	—	—	—	—

Chemical name	Specific target organ systemic toxicity		Aspiration hazard
	Single exposure	Repeated exposure	
pigment	Classification not possible	Classification not possible	Classification not possible
methyl isobutyl ketone	Category 3	Category 1	Classification not possible
diacetonealcohol	Category 2, 3	Classification not possible	Classification not possible
ethylbenzene	Category 3	Category 2	Category 1
additive	Classification not possible	Classification not possible	Classification not possible
1-butanol	Category 3	Category 1	Classification not possible
toluene	Category 1, 3	Category 1	Category 1
xylene	Category 1, 3	Category 1	Category 1
mesitylene	Category 3	Category 1	Category 1
n-nonane	Category 2, 3	Classification not possible	Category 1
Light aromatic solvent naphtha	Classification not possible	Classification not possible	Classification not possible
mineral spirit	Category 3	Category 2	Category 1
resin	Not classified	Not classified	Not classified
dimethyl ether	Category 3	Classification not possible	Classification not possible
—	—	—	—

* Hazards information is peculiar to the chemicals. It doesn't change according to the content.

12. Ecological information

Chemical name	Hazardous to aquatic environment		
	Acute	Chronic	Ozone layer
pigment	Classification not possible	Classification not possible	Classification not possible
methyl isobutyl ketone	Not classified	Not classified	Classification not possible
diacetonealcohol	Not classified	Not classified	Classification not possible
ethylbenzene	Category 1	Category 2	Classification not possible
additive	Classification not possible	Classification not possible	Classification not possible
1-butanol	Not classified	Not classified	Classification not possible
toluene	Category 2	Category 3	Classification not possible
xylene	Category 2	Category 2	Classification not possible
mesitylene	Category 2	Category 2	Classification not possible
n-nonane	Category 1	Category 1	Classification not possible
Light aromatic solvent naphtha	Classification not possible	Classification not possible	Classification not possible
mineral spirit	Category 1	Category 1	Classification not possible
resin	Not classified	Not classified	Classification not possible
dimethyl ether	Not classified	Not classified	Classification not possible
—	—	—	—

* Hazards information is peculiar to the chemicals. It doesn't change according to the content.

- * Residual property/resolvability There are not data as a mixture.
- * Creature accumulation characteristics There are not data as a mixture.
- * Movement degree in the soil There are not data as a mixture.

13. Disposal consideration

- * Requests disposal to the agency who has solid-waste-treatment license.
- * Even if all the ingredient was used, there is a fear of bust, when this product is entered into the fire.
- * When disposing container, dispose after removing a content fully.
- * Take care of fire and aspiration of mist when degassing.
- * Dispose of contents/container in accordance with local/regional/national regulation.

14. Transport information

(National regulation)

- * UN number 1950
- * Guideline number 126
- * Land transportation Follow the transporting way to be specified in the Industrial Safety and Health Law. Fire Defense Law and so on.
- * Air transportation Under current laws, aerosols do not allow of air transportation.
- * Marine transportation Follow the transporting way to be specified in the Ship Safety Law.
- * Fire Defense Law Annex class 4-2 Danger class III

(International regulation)

- * UN number 1950
- * UN classification Class 2 AEROSOLS

(Special precautions)

- * In case of transportation, carry "transportation notice" or "Yellow Card".
- * Confirm container tightly closed and no leaking before transportation.
- * In case of transportation, fix a container tightly and do not expose to temperatures exceeding 40°C.

15. Regulatory information

- * Industrial Safety and Health Law

Dangerous goods	Flammable liquid
Ordinance on the Prevention of Organic Solvent Poisoning	Class-3
Ordinance on Prevention of Lead Poisoning	Not applicable
Ordinance on Prevention of Hazards due to Specified Chemical Substances	Not applicable
- * Pollutant Release and Transfer Register Law Listed
- * Poisonous and Deleterious Substances Control Law Not applicable
- * Fire Defense Law Annex class 4-2
- * Ship Safety Law Dangerous goods (High pressure gas)
- * Offensive Odor Control Low Listed

16. Other information

(Main reference)

- * National Institute of Technology and Evaluation Opend data
- * Japan Paint Manufacturers Association
 - Raw material data base
 - The guide book for the creating SDS and label [mixture (paint)] Second edition
 - Model MSDS and label samples [mixture (paint)]
- * Japan Industrial Safety and Health Association
 - The OJT text for the MSDS of mixture (chemicals) by GHS compatible
- * "YOZAI Pocket Book"
- * "KIKEN BOSAI KYUKYU BINRAN"
- * International Chemical Safety Cards (ICSC)
- * SDS of raw materials

(Notice)

- * This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only.
- * It should not therefore be construed as guaranteeing any specific property of the product.
- * In case of use, set a safe conditions for handling.
- * All chemicals have possibility of unknown hazards, so it needs a due attention for handling.
- * Applicable scope of this document is only in Japan.