Date of preparation : July 8, 2010
Date of revision : May 20, 2015

SAFETY DATA SHEET

1. PRODUCTION AND COMPANY INDENTIFICATION

Product Name	:	Sealing Tape Primer (Aerosol)
Ref. Number	:	10-05231-11
Type	:	Acrylic resin paints
Use	:	Adhesive undercoat of paint for metal, plastic or glass, etc.
Company name	:	Meguro Chemical Industry Co.,Ltd.
Address	:	1768 Shimoono, Koga City, Ibaraki 306-0204 Japan
Telephone number	:	+81-280-92-1221
Emergency	:	+81-280-92-7147 (FAX)

2. HAZARDS IDENTIFICATION

GHS CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

PHYSICAL HAZARDS

・Flammable Aerosols	Category 1

HEALTH HAZARDS

・Acute toxicity(oral)	Not classified
・Acute toxicity(skin)	Not classified
・Acute toxicity(inhalation: gas)	Not applicable
・Acute toxicity(inhalation: vapor)	Category 4
・Acute toxicity(inhalation: dust)	Not applicable
・Acute toxicity(inhalation: mist)	Not classified
・Skin corrosion / irritation	Category 2
・Serious eye damages / eye irritation	Category 2
・Respiratory sensitization	Classification not possible
・Skin sensitization	Not classified
・Germ cell mutagenicity	Not classified
・Carcinogenicity	Not classified
・Reproductive toxicity	Category 1
・Specific target organ toxicity; single exposure	Category 1 (central nerve system, kidney, systemic toxicity) Category 2 (respiratory organs, visual organ, blood, lever) Category 3 (respiratory irritation, anesthetic action)
・Specific target organ toxicity; repeated exposure	Category 1 (central nerve system, kidney) Category 2 (blood-vascular system, blood, spleen, visual organ, auditory organ)
・Aspiration hazard	Category 1

ENVIRONMENTAL HAZARDS

・Aquatic environmental toxicity(acute)	Category 2
・Aquatic environmental toxicity(chronic)	Not classified
・Hazardous to the ozone layer	Classification not possible

GHS label elements

Pictograms or hazard symbols ;

Signal word ; Danger

Hazard statement

・Extremely flammable Aerosols
・Pressurized container: May burst if heated
・Harmful if inhaled (vapor)
・Causes skin irritation
・Causes serious eye irritation
・May damage fertility or the unborn child
・Causes damage to organs ; (central nerve system, kidney, systemic toxicity)
・May cause damage to organs ; (respiratory organs, visual organ, blood, lever)

・May cause respiratory irritation, or may cause drowsiness and dizziness
・Cause damage to organs through prolonged or repeated exposure ; (central nerve system, kidney)
・May cause damage to organs through prolonged or repeated exposure ;
(blood-vascular system, blood, spleen, visual organ, auditory organ)
・May be fatal if swallowed and enters airways
・Toxic to aquatic life

Precautionary statements

Prevention ; Do not handle until all safety precautions have been reed and understood.
Do not eat, drink or smoke when using this product.
Keep away from ignition sources such as heat/sparks/open flame. - No smoking.
Do not spray it in naked flame or other ignition source.
Use explosion-proof type electrical equipment and supply, and take measures to prevent the build up of electrostatic charge, such as ensuring all equipment is electrically grounded/earthed.
For measures against static electricity, wear the anti-electrostatic work clothes and safety shoes.
Use only outdoors or in a well-ventilated area.
At the handling place, set up sealing up facilities or local ventilation systems, provide sufficient ventilation.
Wear protective gloves and eye/face protection when it needs.
Avoid breathing vapors/mist/spray.
When taking in and out of a container, take care not to spill around.
Wash hands thoroughly and gargle after handling.
Do not release to the environment. Keep containers tightly closed.
Do not use in any other purposes.

Response ; In case of fire, use carbon dioxide/powder/foams for extinction.
If the contents leaks, scatter dry sand to absorb it, and collect the sand in a vessel.
IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
Get medical advice/attention if you feel unwell.
IF EXPOSED OR CONCERNED: Get medical advice/attention.
IF IN EYES: Rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do.
If eye irritation persists, get medical advice/attention.
IF ON SKIN (or hair, or cloth):
Wash with plenty of soap and water.
Take off contaminated clothing and exchange it, and wash before reuse it.
If skin irritation occurs, get medical advice/attention.
IF SWALLOWED: Without making vomit by force, get medical advice/attention immediately.

Storage ; Keep container tightly closed. Store container in a well-ventilated cool place.
Lock the storage location. Keep out of reach of children.

Disposal ; Dispose of contents/container to authorized industrial waste handling agent in accordance with local/regional/national/international regulation.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Single substance or mixture : Mixture (Aerosol)

Components :

	Ingredient		Contain (wt%)	CAS No. (*1)	Chemical formula	PRTR Law ; substance No.
1	Content Liquid	Modified Acrylic Resin	1 - 5	None	-	Not applicable
2		Toluene	23	108-88-3	C_7H_8	Class 1 ; 300
3		Isopropyl alcohol	5 - 10	67-63-0	C_3H_8O	Not applicable
4		Ethyl acetate	5 - 10	141-78-6	$C_4H_8O_2$	Not applicable
5		Acetone	1 - 5	67-64-1	C_3H_6O	Not applicable
6		Butyl acetate	1 - 5	123-86-4	$C_6H_{12}O_2$	Not applicable
7		1-Butanol	0.1 - 1.0	71-36-3	$C_4H_{10}O$	Not applicable
8		Methanol	1 - 5	67-56-1	CH_4O	Not applicable
9		Diacetone alcohol	1 - 5	123-42-2	$C_6H_{12}O_2$	Not applicable
10	Aerosol Propellant	Dimethyl ether (DME)	40 - 50	115-10-6	C_2H_6O	Not applicable

(*1) CAS No.: Chemical Abstracts Service Registry Number

4. FIRST-AID MEASURES

Inhalation ・If disorder occurs for inhalation of vapor or gas, remove to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention
・Do the artificial respiration in case of breathing's being irregular or stopping.
・The vomit doesn't make swallow.

Skin Contact
- Wipe quickly clinging matter with clean cloth.
- Take off contaminated clothing and exchange it, and wash before reuse it.
- Wash with plenty of soap and water. Do not use thinner or solvent.
- If skin irritation occurs, get medical advice/attention.

Eye Contact
- Rinse with a large amount of running water carefully.
- If wearing contact lenses that can be removed easily, remove the contact lenses. Continue rinsing.
- If eye irritation persists, get medical advice/attention.

Ingestion
- Avoid forcing to vomit, so it is volatile.
- Rinse mouth immediately with water.
- Immediately get medical advice/attention.

Expected acute and a tardier symptoms
- Inhalation - stimulation to respiratory organs, cough, shortness of breath, dizziness, drowsiness, headache
- Ingestion - stimulation to the stomach and intestines, nausea, vomit, diarrhea cough, dizziness, drowsiness, headache
- Skin Contact - stimulation to skin, removal of fat, stimulation to eyes, skin reddening, pain
- Excessive exposure - anesthetic action, headache, dizziness, narrowing of visual field, nausea, diarrhea, loss of consciousness

Protection for first-aides
- Be careful about ventilation and fire.
- Wear protective gloves and eye/face protection when it needs.
- Put on chemical cartridge respirator for an organic vapor when it's possible.

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5. FIRE-FIGHTING MEASURES

Suitable extinguishing media : Dry chemical, Carbon dioxide, alcohol resistant foam

Unsuitable extinguishing media : Straight stream water
If a fire may spread conversely by water spray, use suitable extinguishing media

Specific hazards :
- There is danger of intense fire, if they expose to heat, a spark or fire.
- When heated, there is a fear of intense bust of container by expansion or resolution.
- Combustion may cause to generate irritant, toxic or erosive gas.
- Liquid and vapor are extremely flammable.

Specific extinguishing method :
- Remove combustibles quickly from the surrounding area.
- Move container from fire area, if it can be done without risk.
- If it is non-transferable, sprinkle the container and the circle with water and cool down.
- Cool the fire-exposed container with plenty of water after fire extinction.

Special protective equipment and precautions for fire-fighters :
- Wear respiratory-protective-equipment, chemical-defense clothes as occasion demands.

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6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency measure
- Do not touch leakage, and do not walk on it.
- Immediately isolate the crowd from the suitable range of all directions from a leak spot, do not admit unrelated person.
- Lead personnel to the windward from outflow areas.
- Avoid the inhalation of vapor. Avoid the contact to the skin and eyes. Wear proper protective equipment (gloves, respirator, safety goggles, apron, etc.).
- Promote ventilation in an enclosed area.

Environmental precautions
- Prevent outflow into drainage ditches, sewers, rivers. Do not release to the environment.
- For small scale leakage, use absorbent (dry sand, clay, etc.) to remove most of the spill.
- For large scale leakage, build bank around the spill, lead the liquid to a safer place for recovery, and recover in a sealable container.

Prevention of secondary hazards
- Immediately remove all ignition sources and flammable substances. (Smoking, fireworks and naked flames in the vicinity are prohibited.)
- Prevent inflow to drainage ditches, sewers, basements, or sealed locations.

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7. HANDLING AND STORAGE

Handring: Technical measure

- Handle this based on the related laws (Industrial Safety and Health Law, Fire Defense Law, etc.).
- In the work place and surrounding areas, eliminate all ignition sources, such as fire, static electricity or spark.
- For measures against static electricity, use explosion-proof type electrical equipment and supply, and ground equipment (transport, dip, stirring liquid).
- When in working, wear suitable gloves, eye/face protection, work clothing, shoes.
- Set up the adequate local ventilation systems in the indoor working area where steam or the mist occurs.

Handring: Notice

- Do not handle until all safety precautions have been read and understood.
- Use only outdoors or in a well-ventilated area.
- Avoid inhalation, swallowing and contact with eyes, skin and clothing.
- After handling, wash hands with soap water.
- Do not eat, drink or smoke when using this product.
- Do not release to the environment.

Storage: Storing conditions

- Keep away from ignition sources such as heat/sparks/open flame. - No smoking.
- Keep container tightly closed. Store container in a well-ventilated cool place.
- Avoid direct sunlight and fire. Lock the storage location. Keep out of reach of children.
- When handling quantities above a specified amount, do not store this product in any places other than storage space.

Storage: Incompatible materials

- Keep away from high temperature substance, strong oxidizing compounds, strong acids, strong bases, amines, and metals
- Keep away from combustibles (woods, papers, Fibers, etc.).

Storage: Container and packing materials

- Use containers which are prescribed in Fire Laws and UN transport regulations.
- Use the sealed container without breakage, corrosion and leakage.

Please observe the following precautions for use, so this aerosol product contain flammable liquids and flammable high pressure gas (DME).

- Do not use near the open flame or fire.
- Do not use large amounts of it in the presence of naked flames.
- So there is a fear of explosion when it becomes hot, do not store in a place above 40°C, such as a place in direct sunlight or near the fire.
- Do not put it in the flame.
- Throw it away after using up the contents

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limit Values ;

	Ingredient		Control concentration (ppm)	Allowable concentration (ppm)	
				JAIH(*2)-recommended value	ACGIH(*3) (TLV*4-TWA*5)
2	Content Liquid	Toluene	20	50	20
3		Isopropyl alcohol	200	400	200
4		Ethyl acetate	200	200	400
5		Acetone	500	200	500
6		Butyl acetate	150	100	150
7		1-Butanol	25	50	20
8		Methanol	200	200	200
9		Diacetone alcohol	Specifications not provided	Specifications not provided	50
10	Aerosol Propellant	Dimethyl ether (DME)	Specifications not provided	Specifications not provided	Specifications not provided

(*2) JAIH = Japan Association on Industrial Health
(*3) ACGIH: American Conference of Governmental Industrial Hygienists
(*4) TLV: Threshold Limit Value
(*5) TWA: Time Weighted Average

Equipment

- Set up facilities to keep airtight a emission source of organic solvent, or set up local ventilation systems.

・When handling flammable liquid, there needs explosion-proof type ventilation systems.

Protectors

Eye ・Wear suitable safety goggles.

Skin ・Wear suitable gloves impervious to organic solvent and chemical.

Respiration and Ventilation

・Wear suitable air-supplied respirator or chemical-cartridge respirator.

・In an enclosed area, wear air-supplied respirator.

Hygiene management

・Don't eat, drink or smoke when using this product.

・Wash hands with soap after use.

9. PHYSICAL AND CHEMICAL CHARACTERISTICS

Content Liquid

Appearance	:	Clear light yellow liquid
Odor	:	Odor of solvents
PH	:	neutral
Density	:	0.82 (at 20 ℃)
Vapor Pressure	:	4,948 Pa (at 20 ℃)
Melting point	:	No data
Boiling Point	:	56 - 126 ℃
Flash Point	:	-2 ℃ (Tagliabue(Tag) Closed cup)
Ignition Point	:	app. 513 ℃
Explosion Limit	:	1.3 vol% minimum limit , 24 vol% maximum limit
Solubility	:	Ingredients dissolved in water is contained. Soluble in some organic solvent

Aerosol Propellant : DME (Dimethyl ether)

Appearance	:	Colorless liquefied gas
Odor	:	Strong peculiar smell
PH	:	No data
Density	:	0.67 (liquid density; g/cm^3, at 20 ℃)
Vapor Pressure	:	4,450 mmHg (at 25 ℃) , [593,185 Pa (at 25 ℃)]
Melting point	:	-138.5 ℃
Boiling Point	:	-24.8 ℃
Flash Point	:	-41.1 ℃ (Tagliabue(Tag) Closed cup)
Ignition Point	:	app. 350 ℃
Explosion Limit	:	3.4 vol% minimum limit , 27 vol% maximum limit
Solubility	:	[Water] 7.0 g / 100g water (at 18 ℃)

10. STABILITY AND REACTIVITY

Stability

・Stable under normal conditions of use

・May generate static electricity by agitation or flowing

Hazardous Reaction

・May react with strong oxidizing compounds, strong acids and strong bases

Conditions to avoid

・Heating, High temperature

・Ignition by heating, sparks or fire

Incompatible materials

・Oxidizing compound, Strong acid, Strong bases

Product Decomposition/Dangerous Substance Generation

・Carbon monoxide or Carbon dioxide is generated by hydrolysis or combustion.

11. TOXICOLOGICAL INFORMATION

Toxicity of this product : No information

GHS classification of each ingredient in this product

No.	Ingredient	Acute toxicity (Oral)	Acute toxicity (skin)	Acute toxicity (Inhalation : Gas)	Acute toxicity (Inhalation : Vapor)	Acute toxicity (Inhalation : Dust)	Acute toxicity (inhalation : Mist)	Skin corrosion / irritation	Serious eye damages / eye irritation
2	Toluene	Not classified	Not classified	Not applicable	Category 4	Not applicable	Classification not possible	Category 2	Category 2B
3	Isopropyl alcohol	Category 5	Category 5	Not applicable	Not classified	Not applicable	Classification not possible	Not classified	Category 2A-2B
4	Ethyl acetate	Not classified	Not classified	Not applicable	Not classified	Not applicable	Classification not possible	Not classified	Category 2B
5	Acetone	Not classified	Not classified	Not applicable	Not classified	Not applicable	Classification not possible	Not classified	Category 2B
6	Butyl acetate	Not classified	Not classified	Not applicable	Category 3	Not applicable	Category 3	Not classified	Category 2B
7	1-Butanol	Category 4	Category 5	Not applicable	Not classified	Not applicable	Classification not possible	Category 2	Category 2A
8	Methanol	Category 4	Not classified	Not applicable	Not classified	Not applicable	Classification not possible	Classification not possible	Category 2
9	Diacetone alcohol	Not classified	Not classified	Not applicable	Classification not possible	Not applicable	Classification not possible	Category 2	Category 2A
10	Dimethyl ether (DME)	Classification not possible	Classification not possible	Not classified	Not applicable	Not applicable	Not applicable	Classification not possible	Classification not possible

No.	Ingredient	Respiratory sensitization	Skin sensitization	Germ cell mutagenicity	Carcinogenicity	Reproductive toxicity	Specific target organ toxicity ; single exposure	Specific target organ toxicity ; repeated exposure	Aspiration hazard
2	Toluene	Classification not possible	Not classified	Not classified	Not classified	Category 1A	Category 1 central nerve system, Category 3 respiratory irritation, anesthetic action	Category 1 central nerve system, kidney	Category 1
3	Isopropyl alcohol	Classification not possible	Classification not possible	Not classified	Not classified	Category 2	Category 1 central nerve system, kidney, systemic toxicity Category 3 respiratory irritation	Category 2 blood, lever, spleen	Category 2
4	Ethyl acetate	Classification not possible	Not classified	Not classified	Classification not possible	Classification not possible	Category 3 respiratory irritation, anesthetic action	Classification not possible	Classification not possible
5	Acetone	Classification not possible	Not classified	Not classified	Not classified	Category 2	Category 3 respiratory irritation, anesthetic action	Category 2 blood	Category 2
6	Butyl acetate	Classification not possible	Not classified	Classification not possible	Classification not possible	Classification not possible	Category 2 respiratory organs, central nerve system	Classification not possible	Classification not possible
7	1-Butanol	Classification not possible	Classification not possible	Not classified	Not classified	Not classified	Category 3 respiratory irritation, anesthetic action	Category 1 central nerve system, auditory organ	Category 2
8	Methanol	Classification not possible	Not classified	Not classified	Classification not possible	Category 1B	Category 1 central nerve system, visual organ, systemic toxicity Category 3 anesthetic action	Category 1 central nerve system, visual organ	Classification not possible
9	Diacetone alcohol	Classification not possible	Classification not possible	Classification not possible	Classification not possible	Category 2	Category 2 Blood, lever Category 3 respiratory irritation, anesthetic action	Classification not possible	Classification not possible
10	Dimethyl ether (DME)	Classification not possible	Classification not possible	Classification not possible	Classification not possible	Classification not possible	Category 3 anesthetic action	Not classified	Classification not possible

１２. ECOLOGICAL INFORMATION

Ecological information of this product : No information

GHS classification of each ingredient in this product

No.	Ingredient	Hazardous to the aquatic environment (Acute)	Hazardous to the aquatic environment (Chronic)
2	Toluene	Category 2	Not classified
3	Isopropyl alcohol	Not classified	Not classified
4	Ethyl acetate	Not classified	Not classified
5	Acetone	Not classified	Not classified
6	Butyl acetate	Category 3	Not classified
7	1-Butanol	Not classified	Not classified
8	Methanol	Not classified	Not classified
9	Diacetone alcohol	Not classified	Not classified
10	Dimethyl ether (DME)	Not classified	Not classified

１３. DISPOSAL CONSIDERATIONS

Waste from residues ;
- Entrust the disposal to an industrial waste treatment firm approved by a local governor, or to a local public corporation if any.
- Follow the relevant laws and local government standards for waste disposal.
- Do not dispose of waste water into the ground and drainage ditch without treatment, after cleaning container, equipment, tool, etc.

Container and Package ;
- Remove contents completely in case of disposal of empty container.
- In case of Dispose empty aerosol can, after confirming that spray gas doesn't appear thoroughly.

１４. TRANSPORT INFORMATION

UN Class	:	Class 2.1 (Flammable gases)
UN No.	:	1950
Proper shipping name	:	AEROSOLS, flammable
Packing Group	:	-
Guideline number	:	126

International restriction

Marine transportation ; Follow the IMO information
Marine Pollutant : Not applicable
Aviation transportation ; Follow the ICO／IATA information

Domestic restriction

Land transportation
- Follow the mode of transportation as provided in the Fire Service Law, Industrial Safety and Health Act, the Road Law, the High Pressure Gas Safety Act, etc.

Marine transportation
- Follow the transporting way to be specified in the Ship Safety Law.

Aviation transportation
- Follow the transporting way to be specified in the Aviation Law.

Special safety measurements
- While transporting, yellow card must be equipped.
- Follow the general attention of the aerosol product.
- Prior to transport, check the container and loading to prevent leakage or turnover, fall and damage cargo in accordance with regulations.
- When transporting, protect from direct sunlight and take on cargo without breakage of container, corrosion and leakage. Make sure to prevent collapse of cargo piles.
- Do not transport with foods and animal feeding stuffs.
- Do not put on upper load of heavy goods.

１５. JAPANESE REGULATORY INFORMATION

・Fire Laws ; Article 2
Hazardous Substance Class 4, Group 1 oil (water non-soluble liquid)
Hazard Class Ⅱ (200 liter quantity specified)

・Industrial Safety and Health Law:
Enforcement Ordinance ; Article 18 (Harmful substance to be notified their names)
< Toluene, Isopropyl alcohol, Ethyl acetate, Acetone, Butyl acetate, 1-Butanol, Methanol, Diacetone alcohol >
Enforcement Ordinance ; Article 18-2 (Harmful substance to be indicated their names)
< Toluene, Isopropyl alcohol, Ethyl acetate, Acetone, Butyl acetate, 1-Butanol, Methanol >
Enforcement Ordinance ; Dangerous goods, Combustible/flammable gases
Organic Solvent Regulations ; Class 2 organic solvents
Ordinance on Prevention of Hazards Due to Specified Chemical Substances ; Not available

・PRTR Act ; Class 1 Specified Chemical Substance ; Class 1, 300 < Toluene >

・Offensive Odor Control Act ; Article 1 < Toluene, Ethyl acetate >

・Air Pollution Control Law ;
(Specific substances) < Methanol >
(hazardous air pollutants) < Toluene (substances requiring priority action) >
(Volatile Organic Compounds) < Toluene, Isopropyl alcohol, Ethyl acetate, Acetone, Butyl acetate, 1-Butanol, Methanol >

・Sea Pollution Prevention Act ;
(Noxious liquid substances of Class Y) < Toluene, Isopropyl alcohol, Butyl acetate, Methanol >
(Noxious liquid substances of Class Z) < Ethyl acetate, Acetone, 1-Butanol >

・Ship Safe Act ; Hazard regulations: Article 3-6, Flammable liquid (flammable liquid or medium flashing point)
High pressure gases; Aerosols(<1L) < DME >

・Harbor Act ; Enforcement regulation: Article 12, Hazardous Substance (flammable liquid)
High pressure gases; Aerosols < DME >

・Aviation Act ; Enforcement regulation: Article 194, Hazardous Substance supplement List 3 (flammable liquid)
High pressure gases; Aerosols < DME >

１６. OTHER INFORMATION

References ; ・Ohm Inc. : "YOZAI Pocket Book" (Edited by Association of Organic Substance Synthesis)
・Japan Paint Manufacturers Association
Raw material data base
The guide book for the creating SDS and Label revised second edition [mixture (paint)]
・National Institute of Technology and Evaluation (NITE)
・MSDS of each raw material

Remarks

The description in this MSDS may be revised by new knowledge, new information, new test results, or amendments of laws and regulations.
The description in this MSDS are based on the current available information and data etc.
Please be mentioned that we do not provide any warranty about the accuracy or suitability thereof for any particular applications.
All chemical products may present unknown hazards and should be used with caution.
Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.
In addition, the precautions described herein apply only to normal uses, and thus safety cannot be guaranteed.
When handling the product in a specialized manner, take the appropriate safety measures for the application or method.

This is a translation of original Material Safety Data Sheet prepared in Japanese.