

Date of first issue 2009/09/19
Date of revised 2022/06/21

SAFETY DATA SHEET

1. IDENTIFICATION

Name of chemical substances: COSMOREX#1000T WHITE
Kinds of product: Modified epoxy resins coating
Manufacturer name: DAI NIPPON TORYO CO., LTD.
Address: 1-18-11, MINAMISEMBA, CHUO-KU, OSAKA 542-0081 Japan
Section in charge: Rolling stock and Machinery Coating Department
Group in charge: Auto-Refinishing Team (KOMAKI)
Phone number: 81-568-76-5583
FAX number: 81-568-76-5610
Emergency telephone number: 81-568-76-5583
Reference number: 13654
Use:
For rolling stock

2. HAZARDS IDENTIFICATION

GHS classification:

Physicochemical Hazards:

Explosives	:Not classified
Flammable gases	:Not applicable
Flammable aerosols	:Not applicable
Oxidizing gases	:Not applicable
Gases under pressure	:Not applicable
Flammable liquids	:Category 2
Flammable solids	:Not applicable
Self-reactive substances and mixtures	:Classification not possible
Pyrophoric liquids	:Not classified
Pyrophoric solids	:Not applicable
Self-heating substances and mixtures	:Not classified
Substances and mixtures which, in contact with water, emit flammable gases	:Not classified
Oxidizing liquids	:Not classified
Oxidizing solids	:Not applicable
Organic peroxides	:Classification not possible
Corrosive to metals	:Classification not possible

Health hazards:

Acute toxicity - oral	:Not classified
Acute toxicity - dermal	:Category 5
Acute toxicity-inhalation/gases	:Not applicable
Acute toxicity-inhalation/vapour	:Category 4
Acute toxicity-inhalation/dusts and mists	:Not classified
Skin corrosion / irritation	:Category 2
Serious eye damage /irritation	:Category 2
Respiratory sensitization	:Classification not possible
Skin sensitization	:Not classified
Germ cell mutagenicity	:Not classified
Carcinogenicity	:Category 2
Reproductive toxicity	:Category 1 + Effect on lactation
Specific target organ systemic toxicity (single exposure)	:Category 1 (Blood, Central nervous system) :Category 2 (Liver, respiratory organs, kidney, Systemic toxicity)
Specific target organ systemic toxicity (repeated exposure)	:Category 1 (kidney, Central nervous system)

:Category 2

(Blood, respiratory organs, Nervous system, Peripheral nervous system)

:Not classified

Aspiration toxicity

Environmental hazards:

Hazardous to the aquatic environment (acute toxicity)

:Category 2

Hazardous to the aquatic environment (chronic toxicity)

:Category 3

GHS label elements:

Pictogram or symbol:



Signal words: Danger

Hazard statement:

Highly flammable liquid and vapour.

Harmful if inhaled.

May cause organic solvent poisoning.

Causes skin irritation.

Causes serious eye irritation.

Suspected of causing cancer.

May damage fertility or the unborn child

May cause harm to breast-fed children.

Causes damage to organs Blood, Central nervous system.

May cause damage to organs Liver, respiratory organs, kidney, Systemic toxicity.

Causes damage to organs kidney, Central nervous system through prolonged or repeated exposure.

May cause damage to organs Blood, respiratory organs, Nervous system, Peripheral nervous system through

prolonged or repeated exposure.

Toxic to aquatic life.

Harmful to aquatic life with long lasting effects.

Precautionary statements:

Prevention:

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Ground/bond container and receiving equipment - if the explosive is electrostatically sensitive.

Use explosion-proof electrical/ventilating/lighting Equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Wash thoroughly after handling.

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Do not breathe dust/fume/gas/mist/vapours/spray.

Do not eat, drink or smoke when using this product.

Use only outdoors or in a well-ventilated area.

Avoid release to the environment-if this is not the intended use.

Keep container tightly closed.

Wear face protection as specified by the manufacturer/supplier or competent authority.

Avoid breathing dust/fume/gas/mist/vapours/spray.

First aid measures:

IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.

In case of fire, use Carbon dioxide gas, foam, dry powder.

IF ON SKIN: Gently wash with plenty of soap and water.

If skin irritation occurs, seek medical advice/attention.

If exposing it: Contact the doctor.

IF exposed: Call a POISON CENTER or doctor/physician.

Get medical attention/advice if you feel unwell.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists, get medical advice/attention.

IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.

Storage:

Store in cool/well-ventilated place.
 Store locked up.

Disposal:

Dispose of contents/container in accordance with local/regional/national/international regulation.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Classification of the substance or mixture:A mixture.

Chemical or generic name:No information

Chemical characteristic (chemical formulas):No information

Poisonous and Deleterious Substances Control Act:No correspond

Component name:

Ingredient name	CAS no	Content (%)	Industrial Safety and Health Act	Poisonous and Deleterious Substances Control Act	Pollutant Release and Transfer Register Law
toluene	108-88-3	14	○	-	PRTR CLASS-1-300
titanium dioxide	13463-67-7	10.0~20.0	○	-	
methyl ethyl ketone	78-93-3	1.0~10.0	○	-	
xylene mixed isomers pure	1330-20-7	3.0	○	-	PRTR CLASS-1-80
ethylbenzene	100-41-4	2.2	○	-	PRTR CLASS-1-53
isopropyl alcohol	67-63-0	1.0~10.0	○	-	
acetone	67-64-1	1.0~10.0	○	-	
zinc oxide	1314-13-2	0.1~1	○	-	

4. FIRST AID MEASURES

Inhalation:

If inhaled vapour or gases and felt unwell, remove to fresh air and keep at rest in a position comfortable for breathing.

And call a doctor /physician if feels unwell.

If inhaled vapour or gases in large quantities, remove to fresh air and rest with keeping warm. And if breathing gets irregular or stops, perform artificial respiration. And do not let swallow vomit.

Consult a doctor/ physician immediately.

Skin contact:

Wipe off clinging substance with clean cloth quickly.

Wash off thoroughly with plenty of water and soap. Do not use solvent or paint thinner.

If any change of appearance is seen, or pain persists and feels unwell, consult a doctor/physician.

Take off immediately all contaminated clothing.

Eye contact:

Wash off with plenty of clean water immediately for 15 minutes or more. And remove contact lens, if presence and easy to do.

And completely wash it including the underside of eyelid.

Consult a physician as soon as possible.

Call a POISON CENTER or doctor/physician immediately.

Ingestion:

If swallowed accidentally, rest and consult a doctor/physician immediately.

Do not let swallow vomit.

Avoid forcing to vomit without physician's instruction.

The protection of the person taking first aid measure.:

Wear proper protectors (safety goggles, respirator, gloves, etc.)

Ventilate

5. FIRE-FIGHTING MEASURES

Extinguishing compositions:Carbon dioxide gas, foam, dry powder

Must not use extinguishing compositions:Water (stick water, high pressure water jet)

Special fire extinguishing method(protection of fire-fighting person):

Wear proper protectors (heat-resistant clothes, etc.)

Remove flammable matters immediately.

Use designated extinguishant.

If sealed container is exposed to high temperature, water to cool.

Fire-fight from windward.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

Wear proper protectors (safety goggles, respirator, gloves, apron, etc.)

Declare off-limits of the outskirts and do not bring it close anyone other than the person concerned and prevent a second disaster.

Remove ignition source, heat source and flammable matters immediately.

Prepare proper extinguisher for accidental fire.

Environmental precautions:

Take cautions not to cause influence on environment by discharge to river.

Methods and materials for containment and cleaning up:

Dispose of waste or clinging matter according to related regulation.

Recollect leakage in the container can be sealed and keep in safety place.

Recollect with tool of non-spark material.

Recollect with drysand, soil, or other non-flammable matter. If in large quantity, prevent from flowing out by banking.

7. HANDLING AND STORAGE

Handling:

Handling technical measures:

Handle in good ventilated area.

Close container tightly with closer after use.

Take away from open flame, spark, heat-source

Use a non-spark type hand tool.

While working, wear antistatic working suits and shoes.

Wear proper protectors to prevent from contact on skin, mucous membrane, wearing clothes and eyes.

Wash hands and face well after handling, and avoid to bring polluted protectors in any place where person stays.

In closed place, ensure good local exhaust ventilation and wear proper protectors.

Handling instructions:

As a measure against static electricity accident, ground equipment and use electric appliances of explosion proof type.

A material product that contains Class 2 Organic Solvents on exceeding 5% is obligated to be stored in a closed equipment or in local exhaust ventilation equipment.

Storage:

Storage, technical measures:

Avoid a direct sunlight.

Keep in good ventilated place.

Keep away from open flame and heat source.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Taking measures for equipment:

Use explosion proof type equipment.

Install ventilation equipment to prevent concentrating of vapour.

Ground equipment for transferring, pumping and stirring of fluid.

Provide equipment devised so that heat or ignition source can not be placed in the neighborhood of handling place.

In door application, use either not to expose the operator directly, such as using automatic painting machines, or that keeps the operator from exposure, such as local exhaust ventilation equipment.

In application in closed space such as inside of tank, install equipment that can ventilate completely even its bottom.

Consider so that the operator can not touch or expose to corrosive substance directly.

Management density / permission density:

Chemical substance name	Exposure limits	Exposure limits mg	Skin
	ppm	/m3	
toluene	20		
methyl ethyl ketone	200	590	
xylene mixed isomers pure	50		
ethylbenzene	20		
isopropyl alcohol	200		

acetone 500

Chemical substance name	Japan Society for Occupational Health (JSOH) - ppm	Japan Society for Occupational Health (JSOH) - mg/m3	Skin
xylene mixed isomers pure	50		
ethylbenzene	20	86.8	

Chemical substance name	ACGIH_TWA ppm	ACGIH_TWA mg/m3	Skin
toluene	20		○
titanium dioxide		10	
methyl ethyl ketone	200	590	
xylene mixed isomers pure	100	434	
ethylbenzene	20		
isopropyl alcohol	200		
acetone	500	1180	
zinc oxide		2	

Chemical substance name	IARC
toluene	3
titanium dioxide	2B
xylene mixed isomers pure	3
ethylbenzene	2B
isopropyl alcohol	3

Protective equipment:

Respiratory protective equipment:

- Wear a gas mask for poisonous gases.
- Wear a mask with supplying air in closed place.

Hand protective equipment:

- Wear the glove that organic solvents or chemicals can not permeate through.

Eyes protective equipment:

- Wear protective eyeglasses or goggles.

Skin and body protective equipment:

- Wear suitable clothing that should be impervious to chemicals and to avoid direct contact of skin in handling.

Other information:

- Wear electricity shoes on electrostatic painting.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:Liquid

Colour:White

Odour:The smell of the organic solvent.

Melting point/freezing point:No information

Initial boiling point and boiling range:80[°C]

Appearance:No information

Upper/lower flammability or explosive limits:10[vol %] / 1.1[vol %]

Flash point:3[°C]

Auto-ignition temperature(ignition point):480[°C]

Decomposition temperature:No information

pH:No information

Flammability (solid, gas):No information

Solubility:

Solubility in water:No information

Dissolubility in water:No information

Solubility in solvent:No information

Dissolubility in solvent:No information

Partition coefficient:n-octanol/water:

toluene	2.73
xylene mixed isomers pure	3.16
ethylbenzene	3.15

Vapor pressure:12732[Pa] (25[°C])

Specific gravity (relative density):No information

Vapour density:No information

Evaporation rate:No information

1 0. STABILITY AND REACTIVITY

Stability(possibility of hazardous reaction) :

There is no dangerous reaction in the range of room temperature.

Product is considered stable.

Conditions to avoid:

Avoid high temperature.

Incompatible materials:

No information

Hazardous decomposition products:

Hazardous gases such as carbon monoxide may be generated.

:

No information

:

No information

1 1. TOXICOLOGICAL INFORMATION

Acute toxicity:

toluene

LD50(oral)	rat	=5000mg/kg(4h)
LD50(dermal)	rat	=12000mg/kg(4h)
LC50(vapour)	rat	=7460ppm(4h)

methyl ethyl ketone

LD50(oral)	rat	=2737mg/kg
LD50(dermal)	rabbit	>5000mg/kg
LC50(vapour)	rat	=11700ppm(4h)

xylene mixed isomers pure

LD50(oral)		4300mg/kg(4h)
LD50(dermal)		>4350mg/kg(4h)
LC50(vapour)		6700ppm(4h)

ethylbenzene

LD50(oral)		3500mg/kg(4h)
LD50(dermal)		15400mg/kg(4h)
LC50(vapour)		4000ppm(4h)

isopropyl alcohol

LD50(oral)		3437mg/kg(4h)
LD50(dermal)		4059mg/kg(4h)
LC50(vapour)		29512ppm(4h)

zinc oxide

LD50(oral)	mouse	>5000mg/kg
LC50(dust,mist)	rat	=5.7mg/l(4h)

Skin corrosion/irritation:

toluene Category 2
methyl ethyl ketone Category 2
xylene mixed isomers pure Category 2

Serious eye damage /irritation:

toluene Category 2B
titanium dioxide Category 2B
methyl ethyl ketone Category 2A
xylene mixed isomers pure Category 2A
ethylbenzene Category 2B
isopropyl alcohol Category 2A
acetone Category 2B

Respiratory sensitization:

No information

Mutagenicity (germ cell mutagenicity):

No information

Carcinogenicity:

ethylbenzene Category 2

Reproductive toxicity:

toluene Category 1A + Effect on lactation
xylene mixed isomers pure Category 1B

isopropyl alcohol Category 2
acetone Category 2
zinc oxide Category 2
Specific target organ / systemic toxicity - single exposure:
toluene Category 1
(Central nervous system)
Category 3
(Respiratory tract irritation, Narcotic effects)
titanium dioxide Category 3
(Respiratory tract irritation)
methyl ethyl ketone Category 2
(kidney)
Category 3
(Respiratory tract irritation, Narcotic effects)
xylene mixed isomers pure Category 1
(Liver, respiratory organs, kidney, Central nervous system)
Category 3
(Narcotic effects)
ethylbenzene Category 2
(Central nervous system)
Category 3
(Respiratory tract irritation)
isopropyl alcohol Category 1
(kidney, Systemic toxicity, Central nervous system)
Category 3
(Respiratory tract irritation)
acetone Category 3
(Respiratory tract irritation, Narcotic effects)
zinc oxide Category 1
(Systemic toxicity, Lungs)
Specific target organ / systemic toxicity - repeated exposure:
toluene Category 1
(kidney, Central nervous system)
methyl ethyl ketone Category 1
(Central nervous system, Peripheral nervous system)
xylene mixed isomers pure Category 1
(respiratory organs, Nervous system)
isopropyl alcohol Category 2
(Liver, blood vessel, Pancreas)
Aspiration hazard:
toluene Category 1
xylene mixed isomers pure Category 2
ethylbenzene Category 1
isopropyl alcohol Category 2
acetone Category 2

1 2. ECOLOGICAL INFORMATION

Take care for spills or waste in handling because of its environmental impact. Especially take care for product or rinsing water not to flow into ground, river and drain directly.

Persistence/ degradability:

Not Available

Bioaccumulation potential:

Not Available

Mobility in soil:

Not Available

Ozone depletion index:

Not Available

Hazardous to the aquatic environment - Acute hazard:

toluene Category 2
xylene mixed isomers pure Category 2
ethylbenzene Category 1
zinc oxide Category 1

Hazardous to the aquatic environment - Chronic hazard:

toluene Category 3
titanium dioxide Category 4
xylene mixed isomers pure Category 2
zinc oxide Category 1

1 3. DISPOSAL CONSIDERATIONS

Residual waste:

Let authorized industrial waste disposing agent to dispose of abolished paint, containers and others under agreement.

Dispose of abolished paint, materials and waste from incineration in accordance with regulation or laws of "Specified Hazardous Industrial Wastes" of Special Controlled Industrial Waste.

Must not dispose of waste water from washing container, machinery and etc. into the ground or drain without treatment.

Dispose of waste from waste water treatment, incineration and etc. in accordance with regulation or laws relating to disposal and cleaning of waste, or let special disposing agent to dispose.

Incinerate abolished paint absorbed to diatomaceous earth by small quantity in the open-type incinerator. Or incinerate them by spraying in the fire box. If it is apprehended that hazardous gases such as dioxins are generated, let authorized industrial waste disposing agent to dispose under agreement.

Let authorized industrial waste disposing agent to dispose of abolished paint and materials under agreement, because there are specified as Special Controlled Industrial waste(waste oil).

Polluted container and packing:

Let authorized industrial waste disposing agent to dispose of them under agreement.

Dispose of used container after removing contents completely.

1 4. TRANSPORT INFORMATION

After confirming the state of container had no leakage, and load to prevent collapsing, fall and damage.

Obey the description of "Handling and Storage"

IMDG:3

UN number:1263

Packing group: II

Land transportation:

If falling under "Fire Service Act", "Industrial Safety and Health Act" or "Poisonous and Deleterious Substances Control Act", obey the transport method regulated in each law.

Marine transportation:

Obey the provisions of "Ship Safety Act"

Air transportation:

Obey the provisions of "Civil Aeronautics Act"

Guide number:128

1 5. REGULATORY INFORMATION

Fire and Disaster Management Act:

Dangerous Materials Class 4 Group 1 Petroleum, water-insoluble, dangerous grades II.

Industrial Safety and Health Act:

Table 1-4 by Act of Parliament, Flammable material

Article 57-2, notifiable substances

Ordinance on Prevention of Organic Solvent Poisoning, Class 2 Organic Solvents

Waste Management and Public Cleaning Act:

Pollutant Release and Transfer Register Law:

Class 1

1 6. OTHER INFORMATION

Literatures:

"Raw Materials Database" edited by Japan Paint Manufacturers Association

"Materials Safety Data Sheet Guide (Mixture)" edited by Japan Paint Manufacturers Association

"Solvent Pocket Book" Ohmsha, Ltd.

The Handbook for Precautions and First Aids to Dangerous Goods.

International Chemical Safety Cards.

Other information:

This SDS is necessary to handle our manufacture property and gathered up the matter which must be paid attention briefly for normal handling.

However the content noted above is prepared based on information or data available at the present, the evaluation of hazardousness and harmfulness is not adequate necessary, so be careful in handling.

This SDS may be revised without notice by revising law or new knowledge.

This SDS is based on the standard of Japan Paint Manufacturers Association with Laws of Japan but not from local government, accord to relevant local laws as required when handling.

Date of first issue 2022/09/29
Date of revised 2022/10/03

SAFETY DATA SHEET

1. IDENTIFICATION

Name of chemical substances:EPONICS #10 TOP COAT BASE N8.5
Kinds of product:Epoxy resins coating(base)
Manufacturer name:DAI NIPPON TORYO CO., LTD.
Address:1-18-11, MINAMISEMBA, CHUO-KU, OSAKA 542-0081 Japan
Section in charge:PROTECTIVE COATINGS DEPT.
Group in charge:PROTECTIVE COATINGS TECHNICAL SUPPORT GROUP
Phone number:81-287-29-1917
FAX number:81-287-29-1922
Emergency telephone number:81-287-29-1917
Reference number:545406
Use:

For structure

2. HAZARDS IDENTIFICATION

GHS classification:

Physicochemical Hazards:

Explosives	:Not classified
Flammable gases	:Not applicable
Flammable aerosols	:Not applicable
Oxidizing gases	:Not applicable
Gases under pressure	:Not applicable
Flammable liquids	:Category 3
Flammable solids	:Not applicable
Self-reactive substances and mixtures	:Classification not possible
Pyrophoric liquids	:Not classified
Pyrophoric solids	:Not applicable
Self-heating substances and mixtures	:Not classified
Substances and mixtures which, in contact with water, emit flammable gases	:Not classified
Oxidizing liquids	:Not classified
Oxidizing solids	:Not applicable
Organic peroxides	:Classification not possible
Corrosive to metals	:Classification not possible

Health hazards:

Acute toxicity - oral	:Category 5
Acute toxicity - dermal	:Not classified
Acute toxicity-inhalation/gases	:Not applicable
Acute toxicity-inhalation/vapour	:Category 5
Acute toxicity-inhalation/dusts and mists	:Not classified
Skin corrosion / irritation	:Category 2
Serious eye damage /irritation	:Category 2
Respiratory sensitization	:Not classified
Skin sensitization	:Not classified
Germ cell mutagenicity	:Not classified
Carcinogenicity	:Category 2
Reproductive toxicity	:Category 1
Specific target organ systemic toxicity (single exposure)	:Category 1 (Liver, respiratory organs, kidney, Central nervous system)
	:Category 2 (Blood)
	:Category 3 (Respiratory tract irritation)

Specific target organ systemic
toxicity (repeated exposure)

:Category 1
(respiratory organs, Nervous system)

:Category 2

(Systemic toxicity)

:Not classified

Aspiration toxicity

Environmental hazards:

Hazardous to the aquatic
environment (acute toxicity)

:Category 2

Hazardous to the aquatic
environment (chronic toxicity)

:Category 3

GHS label elements:

Pictogram or symbol:



Signal words: Danger

Hazard statement:

Flammable liquid and vapour.

May cause organic solvent poisoning.

Causes skin irritation.

Causes serious eye irritation.

Suspected of causing cancer.

May damage fertility or the unborn child

Causes damage to organs Liver, respiratory organs, kidney, Central nervous system.

May cause damage to organs Blood.

May cause respiratory irritation.

Causes damage to organs respiratory organs, Nervous system through
prolonged or repeated exposure.

May cause damage to organs Systemic toxicity through
prolonged or repeated exposure.

Toxic to aquatic life.

Harmful to aquatic life with long lasting effects.

Precautionary statements:

Prevention:

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Ground/bond container and receiving equipment - if the explosive is electrostatically
sensitive.

Use explosion-proof electrical/ventilating/lighting Equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Wash thoroughly after handling.

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Do not breathe dust/fume/gas/mist/vapours/spray.

Do not eat, drink or smoke when using this product.

Use only outdoors or in a well-ventilated area.

Avoid release to the environment-if this is not the intended use.

Keep container tightly closed.

Wear face protection as specified by the manufacturer/supplier or competent authority.

First aid measures:

IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin
with water/shower.

In case of fire, use Carbon dioxide gas, foam, dry powder.

IF ON SKIN: Gently wash with plenty of soap and water.

If skin irritation occurs, seek medical advice/attention.

If exposing it: Contact the doctor.

IF exposed: Call a POISON CENTER or doctor/physician.

IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.

Call a POISON CENTER/doctor/physician if you feel unwell.

Get medical attention/advice if you feel unwell.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses,
if present and easy to do. Continue rinsing.

If eye irritation persists, get medical advice/attention.

Storage:

Store in cool/well-ventilated place.

Store locked up.

Store container tightly closed in well-ventilated place - if product is as volatile as to generate hazardous atmosphere.

Disposal:

Dispose of contents/container in accordance with local/regional/national/international regulation.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Classification of the substance or mixture:A mixture.

Chemical or generic name:No information

Chemical characteristic (chemical formulas):No information

Poisonous and Deleterious Substances Control Act:No correspond

Component name:

Ingredient name	CAS no	Content (%)	Industrial Safety and Health Act	Poisonous and Deleterious Substances Control Act	Pollutant Release and Transfer Register Law
titanium dioxide	13463-67-7	20.0~30.0	○	-	
xylene mixed isomers pure	1330-20-7	15	○	-	PRTR CLASS-1-80
ethylbenzene	100-41-4	6.6	○	-	PRTR CLASS-1-53
methyl isobutyl ketone	108-10-1	1.0~10.0	○	-	
toluene	108-88-3	0.1~1	○	-	
zinc oxide	1314-13-2	0.1~1	○	-	
silica	68611-44-9	0.1~1	-	-	

4. FIRST AID MEASURES

Inhalation:

If inhaled vapour or gases and felt unwell, remove to fresh air and keep at rest in a position comfortable for breathing.

And call a doctor /physician if feels unwell.

If inhaled vapour or gases in large quantities, remove to fresh air and rest with keeping warm. And if breathing gets irregular or stops, perform article respiration. And do not let swallow vomit.

Consult a doctor/ physician immediately.

Skin contact:

Wipe off clinging substance with clean cloth quickly.

Wash off thoroughly with plenty of water and soap. Do not use solvent or paint thinner.

If any change of appearance is seen, or pain persists and feels unwell, consult a doctor/physician.

Take off immediately all contaminated clothing.

Eye contact:

Wash off with plenty of clean water immediately for 15 minutes or more. And remove contact lens ,if presence and easy to do.

And completely wash it including the underside of eyelid.

Consult a physician as soon as possible.

Call a POISON CENTER or doctor/physician immediately.

Ingestion:

If swallowed accidentally, rest and consult a doctor/physician immediately.

Do not let swallow vomit.

Avoid forcing to vomit without physician' s instruction.

The protection of the person taking first aid measure.:

Wear proper protectors (safety goggles, respirator, gloves, etc.)

Ventilate

5. FIRE-FIGHTING MEASURES

Extinguishing compositions:Carbon dioxide gas, foam , dry powder

Must not use extinguishing compositions:Water (stick water, high pressure water jet)

Special fire extinguishing method(protection of fire-fighting person):

Wear proper protectors (heat-resistant clothes, etc.)

Remove flammable matters immediately.

Use designated extinguishant.

If sealed container is exposed to high temperature, water to cool.
Fire-fight from windward.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

Wear proper protectors (safety goggles, respirator, gloves, apron, etc.)

Declare off-limits of the outskirts and do not bring it close anyone other than the person concerned and prevent a second disaster.

Remove ignition source, heat source and flammable matters immediately.

Prepare proper extinguisher for accidental fire.

Environmental precautions:

Take cautions not to cause influence on environment by discharge to river.

Methods and materials for containment and cleaning up:

Dispose of waste or clinging matter according to related regulation.

Recollect leakage in the container can be sealed and keep in safety place.

Recollect with tool of non-spark material.

Recollect with drysand, soil, or other non-flammable matter. If in large quantity, prevent from flowing out by banking.

7. HANDLING AND STORAGE

Handling:

Handling technical measures:

Handle in good ventilated area.

Close container tightly with closer after use.

Take away from open flame, spark, heat-source

Use a non-spark type hand tool.

While working, wear antistatic working suits and shoes.

Wear proper protectors to prevent from contact on skin, mucous membrane, wearing clothes and eyes.

Wash hands and face well after handling, and avoid to bring polluted protectors in any place where person stays.

In closed place, ensure good local exhaust ventilation and wear proper protectors.

Handling instructions:

As a measure against static electricity accident, ground equipment and use electric appliances of explosion proof type.

A material product that contains Class 2 Organic Solvents on exceeding 5% is obligated to be stored in a closed equipment or in local exhaust ventilation equipment.

Storage:

Storage, technical measures:

Avoid a direct sunlight.

Keep in good ventilated place.

Keep away from open flame and heat source.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Taking measures for equipment:

Use explosion proof type equipment.

Install ventilation equipment to prevent concentrating of vapour.

Ground equipment for transferring, pumping and stirring of fluid.

Provide equipment devised so that heat or ignition source can not be placed in the neighborhood of handling place.

In door application, use either not to expose the operator directly, such as using automatic painting machines, or that keeps the operator from exposure, such as local exhaust ventilation equipment.

In application in closed space such as inside of tank, install equipment that can ventilate completely even its bottom.

Consider so that the operator can not touch or expose to corrosive substance directly.

Management density / permission density:

Chemical substance name	Exposure limits ppm	Exposure limits mg /m3	Skin
xylene mixed isomers pure	50		
ethylbenzene	20		
methyl isobutyl ketone	20		
toluene	20		

Chemical substance name	Japan Society for Occupational Health (JSOH) - ppm	Japan Society for Occupational Health (JSOH) - mg/m3	Skin
xylene mixed isomers pure	50		
ethylbenzene	20	86.8	
methyl isobutyl ketone	50	200	
Chemical substance name	ACGIH_TWA ppm	ACGIH_TWA mg/m3	Skin
titanium dioxide		10	
xylene mixed isomers pure	100	434	
ethylbenzene	20		
methyl isobutyl ketone	20		
toluene	20		○
zinc oxide		2	
Chemical substance name	ACGIH_STEL ppm	ACGIH_STEL mg/m3	Skin
methyl isobutyl ketone	75		
Chemical substance name	IARC		
titanium dioxide	2B		
xylene mixed isomers pure	3		
ethylbenzene	2B		
methyl isobutyl ketone	2B		
toluene	3		

Protective equipment:

Respiratory protective equipment:

- Wear a gas mask for poisonous gases.
- Wear a mask with supplying air in closed place.

Hand protective equipment:

- Wear the glove that organic solvents or chemicals can not permeate through.

Eyes protective equipment:

- Wear protective eyeglasses or goggles.

Skin and body protective equipment:

- Wear suitable clothing that should be impervious to chemicals and to avoid direct contact of skin in handling.

Other information:

- Wear electricity shoes on electrostatic painting.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:Liquid

Colour:No information

Odour:to smell of solvent

Melting point/freezing point:No information

Initial boiling point and boiling range:136[°C]~140[°C]

Appearance:No information

Upper/lower flammability or explosive limits:7.8[vol %] / 1[vol %]

Flash point:23[°C]

Auto-ignition temperature(ignition point):432[°C]

Decomposition temperature:No information

pH:No information

Flammability (solid, gas):No information

Solubility:

Solubility in water:No information

Dissolubility in water:No information

Solubility in solvent:No information

Dissolubility in solvent:No information

Partition coefficient:n-octanol/water:

xylene mixed isomers pure 3.16

ethylbenzene 3.15

toluene 2.73

Vapor pressure:933[Pa] (20[°C])

Specific gravity (relative density):No information

Vapour density:No information
Evaporation rate:No information

1 0. STABILITY AND REACTIVITY

Stability(possibility of hazardous reaction) :

There is no dangerous reaction in the range of room temperature.

Product is considered stable.

Conditions to avoid:

Avoid high temperature.

Incompatible materials:

No information

Hazardous decomposition products:

Hazardous gases such as carbon monoxide may be generated.

:

No information

:

No information

1 1. TOXICOLOGICAL INFORMATION

Acute toxicity:

xylene mixed isomers pure

LD50(oral)		4300mg/kg(4h)
LD50(dermal)		>4350mg/kg(4h)
LC50(vapour)		6700ppm(4h)

ethylbenzene

LD50(oral)		3500mg/kg(4h)
LD50(dermal)		15400mg/kg(4h)
LC50(vapour)		4000ppm(4h)

methyl isobutyl ketone

LD50(oral)	rat	=2080mg/kg
LD50(dermal)	rabbit	>16000mg/kg
LC50(vapour)	rat	=8.2m g / 1 (4h)

toluene

LD50(oral)	rat	=5000mg/kg(4h)
LD50(dermal)	rat	=12000mg/kg(4h)
LC50(vapour)	rat	=7460ppm(4h)

zinc oxide

LD50(oral)	mouse	>5000mg/kg
LC50(dust,mist)	rat	=5.7m g / 1 (4h)

Skin corrosion/irritation:

xylene mixed isomers pure Category 2
toluene Category 2

Serious eye damage /irritation:

titanium dioxide Category 2B
xylene mixed isomers pure Category 2A
ethylbenzene Category 2B
methyl isobutyl ketone Category 2B
toluene Category 2B

Respiratory sensitization:

No information

Mutagenicity (germ cell mutagenicity):

No information

Carcinogenicity:

ethylbenzene Category 2
methyl isobutyl ketone Category 2

Reproductive toxicity:

xylene mixed isomers pure Category 1B
toluene Category 1A + Effect on lactation
zinc oxide Category 2

Specific target organ / systemic toxicity - single exposure:

titanium dioxide Category 3
(Respiratory tract irritation)
xylene mixed isomers pure Category 1

(Liver, respiratory organs, kidney, Central nervous system)
Category 3
(Narcotic effects)
ethylbenzene Category 2
(Central nervous system)
Category 3
(Respiratory tract irritation)
methyl isobutyl ketone Category 3
(Respiratory tract irritation, Narcotic effects)
toluene Category 1
(Central nervous system)
Category 3
(Respiratory tract irritation, Narcotic effects)
zinc oxide Category 1
(Systemic toxicity, Lungs)
Specific target organ / systemic toxicity - repeated exposure:
xylene mixed isomers pure Category 1
(respiratory organs, Nervous system)
methyl isobutyl ketone Category 1
(Systemic toxicity)
toluene Category 1
(kidney, Central nervous system)
Aspiration hazard:
xylene mixed isomers pure Category 2
ethylbenzene Category 1
toluene Category 1

1 2. ECOLOGICAL INFORMATION

Take care for spills or waste in handling because of its environmental impact. Especially take care for product or rinsing water not to flow into ground, river and drain directly.

Persistence/ degradability:

Not Available

Bioaccumulation potential:

Not Available

Mobility in soil:

Not Available

Ozone depletion index:

Not Available

Ecotoxicity :

Hazardous to the aquatic environment - Chronic hazard:

titanium dioxide Category 4
xylene mixed isomers pure Category 2
toluene Category 3
zinc oxide Category 1

Hazardous to the aquatic environment - Acute hazard:

xylene mixed isomers pure Category 2
ethylbenzene Category 1
toluene Category 2
zinc oxide Category 1

1 3. DISPOSAL CONSIDERATIONS

Residual waste:

Let authorized industrial waste disposing agent to dispose of abolished paint, containers and others under agreement.

Dispose of abolished paint, materials and waste from incineration in accordance with regulation or laws of "Specified Hazardous Industrial Wastes" of Special Controlled Industrial Waste.

Must not dispose of waste water from washing container, machinery and etc. into the ground or drain without treatment.

Dispose of waste from waste water treatment, incineration and etc. in accordance with regulation or laws relating to disposal and cleaning of waste, or let special disposing agent to dispose.

Incinerate abolished paint absorbed to diatomaceous earth by small quantity in the open-type

incinerator. Or incinerate them by spraying in the fire box. If it is apprehended that hazardous gases such as dioxins are generated, let authorized industrial waste disposing agent to dispose under agreement.

Let authorized industrial waste disposing agent to dispose of abolished paint and materials under agreement, because there are specified as Special Controlled Industrial waste(waste oil).

Polluted container and packing:

Let authorized industrial waste disposing agent to dispose of them under agreement.

Dispose of used container after removing contents completely.

1 4. TRANSPORT INFORMATION

After confirming the state of container had no leakage, and load to prevent collapsing, fall and damage.

Obey the description of "Handling and Storage"

IMDG:3

UN number:1263

Packing group:III

Land transportation:

If falling under "Fire Service Act", "Industrial Safety and Health Act" or "Poisonous and Deleterious Substances Control Act", obey the transport method regulated in each law.

Marine transportation:

Obey the provisions of "Ship Safety Act"

Air transportation:

Obey the provisions of "Civil Aeronautics Act"

Guide number:128

1 5. REGULATORY INFORMATION

Fire and Disaster Management Act:

Dangerous, Category 4, petroleum-category 2, water-insoluble, dangerous grades III.

Industrial Safety and Health Act:

Table 1-4 by Act of Parliament, Flammable material

Article 57-2, notifiable substances

Ordinance on Prevention of Organic Solvent Poisoning, Class 2 Organic Solvents

Waste Management and Public Cleaning Act:

Pollutant Release and Transfer Register Law:

Class 1

1 6. OTHER INFORMATION

Literatures:

"Raw Materials Database" edited by Japan Paint Manufacturers Association

"Materials Safety Data Sheet Guide (Mixture)" edited by Japan Paint Manufacturers Association

"Solvent Pocket Book" Ohmsha, Ltd.

The Handbook for Precautions and First Aids to Dangerous Goods.

International Chemical Safety Cards.

Other information:

This SDS is necessary to handle our manufacture property and gathered up the matter which must be paid attention briefly for normal handling.

However the content noted above is prepared based on information or data available at the present, the evaluation of hazardousness and harmfulness is not adequate necessary, so be careful in handling.

This SDS may be revised without notice by revising law or new knowledge.

This SDS is based on the standard of Japan Paint Manufacturers Association with Laws of Japan but not from local government, accord to relevant local laws as required when handling.

Date of first issue 2009/05/29
Date of revised 2022/06/22

SAFETY DATA SHEET

1. IDENTIFICATION

Name of chemical substances:EPONICS #10 TOP COAT HARDENER
Kinds of product:Hardener for epoxy resins coating
Manufacturer name:DAI NIPPON TORYO CO., LTD.
Address:1-18-11, MINAMISEMBA, CHUO-KU, OSAKA 542-0081 Japan
Section in charge:PROTECTIVE COATINGS DEPT.
Group in charge:PROTECTIVE COATINGS TECHNICAL SUPPORT GROUP
Phone number:81-287-29-1917
FAX number:81-287-29-1922
Emergency telephone number:81-287-29-1917
Reference number:3196
Use:

For structure

2. HAZARDS IDENTIFICATION

GHS classification:

Physicochemical Hazards:

Explosives	:Not classified
Flammable gases	:Not applicable
Flammable aerosols	:Not applicable
Oxidizing gases	:Not applicable
Gases under pressure	:Not applicable
Flammable liquids	:Category 3
Flammable solids	:Not applicable
Self-reactive substances and mixtures	:Classification not possible
Pyrophoric liquids	:Not classified
Pyrophoric solids	:Not applicable
Self-heating substances and mixtures	:Not classified
Substances and mixtures which, in contact with water, emit flammable gases	:Not classified
Oxidizing liquids	:Not classified
Oxidizing solids	:Not applicable
Organic peroxides	:Classification not possible
Corrosive to metals	:Classification not possible

Health hazards:

Acute toxicity - oral	:Not classified
Acute toxicity - dermal	:Not classified
Acute toxicity-inhalation/gases	:Not applicable
Acute toxicity-inhalation/vapour	:Category 5
Acute toxicity-inhalation/dusts and mists	:Classification not possible
Skin corrosion / irritation	:Category 2
Serious eye damage /irritation	:Category 1
Respiratory sensitization	:Classification not possible
Skin sensitization	:Not classified
Germ cell mutagenicity	:Not classified
Carcinogenicity	:Category 2
Reproductive toxicity	:Category 1
Specific target organ systemic toxicity (single exposure)	:Category 1 (Liver, respiratory organs, kidney, Central nervous system)
	:Category 3 (Respiratory tract irritation, Narcotic effects)
Specific target organ systemic toxicity (repeated exposure)	:Category 1

Aspiration toxicity (respiratory organs, Nervous system)
:Not classified

Environmental hazards:

Hazardous to the aquatic environment (acute toxicity) :Category 2

Hazardous to the aquatic environment (chronic toxicity) :Category 2

GHS label elements:

Pictogram or symbol:



Signal words: Danger

Hazard statement:

Flammable liquid and vapour.
May cause organic solvent poisoning.
Causes skin irritation.
Causes serious eye damage.
Suspected of causing cancer.
May damage fertility or the unborn child
Causes damage to organs Liver, respiratory organs, kidney, Central nervous system.
May cause respiratory irritation.
May cause drowsiness and dizziness.
Causes damage to organs respiratory organs, Nervous system through prolonged or repeated exposure.
Toxic to aquatic life.
Toxic to aquatic life with long lasting effects.

Precautionary statements:

Prevention:

Keep away from heat/sparks/open flames/hotsurfaces. - No smoking.
Ground/bond container and receiving equipment - if the explosive is electrostatically sensitive.
Use explosion-proof electrical/ventilating/lighting Equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Wash thoroughly after handling.
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Do not breathe dust/fume/gas/mist/vapours/spray.
Do not eat, drink or smoke when using this product.
Use only outdoors or in a well-ventilated area.
Avoid release to the environment-if this is not the intended use.
Keep container tightly closed.
Wear face protection as specified by the manufacturer/supplier or competent authority.

First aid measures:

IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.
In case of fire, use Carbon dioxide gas, foam, dry powder.
IF ON SKIN: Gently wash with plenty of soap and water.
If skin irritation occurs, seek medical advice/attention.
If exposing it: Contact the doctor.
IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
Call a POISON CENTER/doctor/physician if you feel unwell.
Get medical attention/advice if you feel unwell.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a POISON CENTRE or doctor/physician.
Collect spillage.

Storage:

Store in cool/well-ventilated place.

Store locked up.

Store container tightly closed in well-ventilated place - if product is as volatile as to generate hazardous atmosphere.

Disposal:

Dispose of contents/container in accordance with local/regional/national/international regulation.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Classification of the substance or mixture:A mixture.

Chemical or generic name:No information

Chemical characteristic (chemical formulas):No information

Poisonous and Deleterious Substances Control Act:No correspond

Component name:

Ingredient name	CAS no	Content (%)	Industrial Safety and Health Act	Poisonous and Deleterious Substances Control Act	Pollutant Release and Transfer Register Law
polyamide amine		30.0~40.0	—	—	
xylene mixed isomers pure	1330-20-7	25	○	—	PRTR CLASS-1-80
isobutanol	78-83-1	20.0~30.0	○	—	
ethylbenzene	100-41-4	18	○	—	PRTR CLASS-1-53

4. FIRST AID MEASURES

Inhalation:

If inhaled vapour or gases and felt unwell, remove to fresh air and keep at rest in a position comfortable for breathing.

And call a doctor /physician if feels unwell.

If inhaled vapour or gases in large quantities, remove to fresh air and rest with keeping warm. And if breathing gets irregular or stops, perform artificial respiration. And do not let swallow vomit.

Consult a doctor/ physician immediately.

Skin contact:

Wipe off clinging substance with clean cloth quickly.

Wash off thoroughly with plenty of water and soap. Do not use solvent or paint thinner.

If any change of appearance is seen, or pain persists and feels unwell, consult a doctor/physician.

Take off immediately all contaminated clothing.

Eye contact:

Wash off with plenty of clean water immediately for 15 minutes or more. And remove contact lens, if presence and easy to do.

And completely wash it including the underside of eyelid.

Consult a physician as soon as possible.

Call a POISON CENTER or doctor/physician immediately.

Ingestion:

If swallowed accidentally, rest and consult a doctor/physician immediately.

Do not let swallow vomit.

Avoid forcing to vomit without physician's instruction.

The protection of the person taking first aid measure.:

Wear proper protectors (safety goggles, respirator, gloves, etc.)

Ventilate

5. FIRE-FIGHTING MEASURES

Extinguishing compositions:Carbon dioxide gas, foam, dry powder

Must not use extinguishing compositions:Water (stick water, high pressure water jet)

Special fire extinguishing method(Protection of fire-fighting person):

Wear proper protectors (heat-resistant clothes, etc.)

Remove flammable matters immediately.

Use designated extinguishant.

If sealed container is exposed to high temperature, water to cool.

Fire-fight from windward.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

Wear proper protectors (safety goggles, respirator, gloves, apron, etc.)
Declare off-limits of the outskirts and do not bring it close anyone other than the person concerned and prevent a second disaster.
Remove ignition source, heat source and flammable matters immediately.
Prepare proper extinguisher for accidental fire.

Environmental precautions:

Take cautions not to cause influence on environment by discharge to river.

Methods and materials for containment and cleaning up:

Dispose of waste or clinging matter according to related regulation.
Recollect leakage in the container can be sealed and keep in safety place.
Recollect with tool of non-spark material.
Recollect with drysand, soil, or other non-flammable matter. If in large quantity, prevent from flowing out by banking.

7. HANDLING AND STORAGE

Handling:

Handling technical measures:

Handle in good ventilated area.
Close container tightly with closer after use.
Take away from open flame, spark, heat-source
Use a non-spark type hand tool.
While working, wear antistatic working suits and shoes.
Wear proper protectors to prevent from contact on skin, mucous membrane, wearing clothes and eyes.
Wash hands and face well after handling, and avoid to bring polluted protectors in any place where person stays.
In closed place, ensure good local exhaust ventilation and wear proper protectors.

Handling instructions:

As a measure against static electricity accident, ground equipment and use electric appliances of explosion proof type.
A material product that contains Class 2 Organic Solvents on exceeding 5% is obligated to be stored in a closed equipment or in local exhaust ventilation equipment.

Storage:

Storage, technical measures:

Avoid a direct sunlight.
Keep in good ventilated place.
Keep away from open flame and heat source.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Taking measures for equipment:

Use explosion proof type equipment.
Install ventilation equipment to prevent concentrating of vapour.
Ground equipment for transferring, pumping and stirring of fluid.
Provide equipment devised so that heat or ignition source can not be placed in the neighborhood of handling place.
In door application, use either not to expose the operator directly, such as using automatic painting machines, or that keeps the operator from exposure, such as local exhaust ventilation equipment.
In application in closed space such as inside of tank, install equipment that can ventilate completely even its bottom.
Consider so that the operator can not touch or expose to corrosive substance directly.

Management density / permission density:

Chemical substance name	Exposure limits ppm	Exposure limits mg /m ³	Skin
xylene mixed isomers pure	50		
isobutanol	50		
ethylbenzene	20		
Chemical substance name	Japan Society for Occupational Health h (JSOH) - ppm	Japan Society for Occupational Health h (JSOH) - mg/m ³	Skin
xylene mixed isomers pure	50		
isobutanol	50(1987)	150(1987)	

ethylbenzene	20	86.8	
Chemical substance name	ACGIH_TWA ppm	ACGIH_TWA mg/m3	Skin
xylene mixed isomers pure	100	434	
isobutanol	50		
ethylbenzene	20		
Chemical substance name	IARC		
xylene mixed isomers pure	3		
ethylbenzene	2B		

Protective equipment:

Respiratory protective equipment:

- Wear a gas mask for poisonous gases.
- Wear a mask with supplying air in closed place.

Hand protective equipment:

- Wear the glove that organic solvents or chemicals can not permeate through.

Eyes protective equipment:

- Wear protective eyeglasses or goggles.

Skin and body protective equipment:

- Wear suitable clothing that should be impervious to chemicals and to avoid direct contact of skin in handling.

Other information:

- Wear electricity shoes on electrostatic painting.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:Liquid

Colour:Brown transparence

Odour:Organic solvent smell

Melting point/freezing point:No information

Initial boiling point and boiling range:108[°C]~140[°C]

Appearance:No information

Upper/lower flammability or explosive limits:10.9[vol %] / 1[vol %]

Flash point:23[°C]

Auto-ignition temperature(ignition point):430[°C]

Decomposition temperature:No information

pH:No information

Flammability (solid, gas):No information

Solubility:

Solubility in water:No information

Dissolubility in water:No information

Solubility in solvent:No information

Dissolubility in solvent:No information

Partition coefficient:n-octanol/water:

xylene mixed isomers pure 3.16

ethylbenzene 3.15

Vapor pressure:1400[Pa] (25[°C])

Specific gravity (relative density):No information

Vapour density:No information

Evaporation rate:No information

10. STABILITY AND REACTIVITY

Stability(possibility of hazardous reaction) :

- There is no dangerous reaction in the range of room temperature.
- Product is considered stable.

Conditions to avoid:

- Avoid high temperature.

Incompatible materials:

- No information

Hazardous decomposition products:

- Hazardous gases such as carbon monoxide may be generated.

:

- No information

:

No information

1 1. TOXICOLOGICAL INFORMATION

Acute toxicity:

xylene mixed isomers pure

LD50 (oral)		4300mg/kg (4h)
LD50 (dermal)		>4350mg/kg (4h)
LC50 (vapour)		6700ppm (4h)

isobutanol

LD50 (oral)	rat	=2460mg/kg (4h)
LD50 (dermal)	rabbit	=2460mg/kg (4h)
LC50 (vapour)	rat	=6336ppm (4h)

ethylbenzene

LD50 (oral)		3500mg/kg (4h)
LD50 (dermal)		15400mg/kg (4h)
LC50 (vapour)		4000ppm (4h)

Skin corrosion/irritation:

xylene mixed isomers pure Category 2
isobutanol Category 2

Serious eye damage /irritation:

xylene mixed isomers pure Category 2A
isobutanol Category 1
ethylbenzene Category 2B

Respiratory sensitization:

No information

Mutagenicity (germ cell mutagenicity):

No information

Carcinogenicity:

ethylbenzene Category 2

Reproductive toxicity:

xylene mixed isomers pure Category 1B

Specific target organ / systemic toxicity - single exposure:

xylene mixed isomers pure Category 1
(Liver, respiratory organs, kidney, Central nervous system)
Category 3
(Narcotic effects)
isobutanol Category 3
(Respiratory tract irritation, Narcotic effects)
ethylbenzene Category 2
(Central nervous system)
Category 3
(Respiratory tract irritation)

Specific target organ / systemic toxicity - repeated exposure:

xylene mixed isomers pure Category 1
(respiratory organs, Nervous system)

Aspiration hazard:

xylene mixed isomers pure Category 2
ethylbenzene Category 1

1 2. ECOLOGICAL INFORMATION

Take care for spills or waste in handling because of its environmental impact. Especially take care for product or rinsing water not to flow into ground, river and drain directly.

Persistence/ degradability:

Not Available

Bioaccumulation potential:

Not Available

Mobility in soil:

Not Available

Ozone depletion index:

Not Available

Hazardous to the aquatic environment - Acute hazard:

xylene mixed isomers pure Category 2
ethylbenzene Category 1

Hazardous to the aquatic environment - Chronic hazard:
xylene mixed isomers pure Category 2

1 3. DISPOSAL CONSIDERATIONS

Residual waste:

Let authorized industrial waste disposing agent to dispose of abolished paint, containers and others under agreement.

Dispose of abolished paint, materials and waste from incineration in accordance with regulation or laws of "Specified Hazardous Industrial Wastes" of Special Controlled Industrial Waste.

Must not dispose of waste water from washing container, machinery and etc. into the ground or drain without treatment.

Dispose of waste from waste water treatment, incineration and etc. in accordance with regulation or laws relating to disposal and cleaning of waste, or let special disposing agent to dispose.

Incinerate abolished paint absorbed to diatomaceous earth by small quantity in the open-type incinerator. Or incinerate them by spraying in the fire box. If it is apprehended that hazardous gases such as dioxins are generated, let authorized industrial waste disposing agent to dispose under agreement.

Let authorized industrial waste disposing agent to dispose of abolished paint and materials under agreement, because there are specified as Special Controlled Industrial waste(waste oil).

Polluted container and packing:

Let authorized industrial waste disposing agent to dispose of them under agreement.

Dispose of used container after removing contents completely.

1 4. TRANSPORT INFORMATION

After confirming the state of container had no leakage, and load to prevent collapsing, fall and damage.

Obey the description of "Handling and Storage"

IMDG:3

UN number:1263

Packing group:III

Land transportation:

If falling under "Fire Service Act", "Industrial Safety and Health Act" or "Poisonous and Deleterious Substances Control Act", obey the transport method regulated in each law.

Marine transportation:

Obey the provisions of "Ship Safety Act"

Air transportation:

Obey the provisions of "Civil Aeronautics Act"

Guide number:128

1 5. REGULATORY INFORMATION

Fire and Disaster Management Act:

Dangerous, Category 4, petroleum-category 2, water-insoluble, dangerous grades III.

Industrial Safety and Health Act:

Table 1-4 by Act of Parliament, Flammable material

Article 57-2, notifiable substances

Ordinance on Prevention of Organic Solvent Poisoning, Class 2 Organic Solvents

Labour Standards Law - 477(epoxy).

Waste Management and Public Cleaning Act:

Pollutant Release and Transfer Register Law:

Class 1

1 6. OTHER INFORMATION

Literatures:

"Raw Materials Database" edited by Japan Paint Manufacturers Association

"Materials Safety Data Sheet Guide (Mixture)" edited by Japan Paint Manufacturers Association

"Solvent Pocket Book" Ohmsha, Ltd.

The Handbook for Precautions and First Aids to Dangerous Goods.

International Chemical Safety Cards.

Other information:

This SDS is necessary to handle our manufacture property and gathered up the matter which must be paid attention briefly for normal handling.

However the content noted above is prepared based on information or data available at the present, the evaluation of hazardousness and harmfulness is not adequate necessary, so be careful in handling.

This SDS may be revised without notice by revising law or new knowledge.

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