

# Safety Data Sheet

## 1 PRODUCT AND COMPANY IDENTIFICATION

Product name: ECOLOSILK ADDITIVE  
 Intended use: additive  
 Manufacture:  
 Company name: NIPPON PAINT MARINE COATINGS CO., LTD.  
 Address: 2-1-2 Oyodo-kita, Kita-ku, Osaka, 531-8511 Japan  
 Telephone No.: +81-6-6455-9590  
 Facsimile No.: +81-6-6450-4085  
 24 hours Emergency telephone No.: +81-6-6455-9590

## 2 HAZARDS IDENTIFICATION

CLASSIFICATION CODE Flammable liquids:Category3  
 Acute toxicity - oral:Category4  
 Acute toxicity - dermal:Category3  
 Acute toxicity - inhalation: vapour:Category3  
 Acute toxicity - inhalation: dust,mist:Category2  
 Skin corrosion/irritation:Category2  
 Serious eye damage/eye irritation:Category2  
 Toxic to Reproduction:Category1B  
 Specific target organ toxicity - single exposure:Category3  
 Specific target organ toxicity - repeated exposure:Category1,Category2  
 Chronic hazards to the aquatic environment:Category2

Symbol



Hazard statement Danger  
 H226 Flammable liquid and vapour  
 H302 Harmful if swallowed  
 H311 Toxic in contact with skin  
 H315 Causes skin irritation  
 H319 Causes serious eye irritation  
 H330 Fatal if inhaled  
 H335 May cause respiratory irritatio  
 H336 May cause drowsiness or dizziness  
 H360 May damage fertility or the unborn child  
 H372 Causes damage to organs through prolonged or repeated exposure  
 H411 Toxic to aquatic life with long lasting effect

Comment

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P233 Keep container tightly closed.

P240 Ground/bond container and receiving equipment.

P241 Use explosion-proof electrical/ventilating/lighting equipment.

P242 Use only non-sparking tools.

P243 Take precautionary measures against static discharge.

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P264 Wash hands, mouth etc. thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P271 Use only outdoors or in a well-ventilated area.

P273 Avoid release to the environment, if this is not the intended use.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P284 In case of inadequate ventilation wear respiratory protection.

P310 Immediately call a POISON CENTER/doctor.

P320 Specific treatment is urgent. If immediate administration of antidote is required.

P330 Rinse mouth.

P391 Collect spillage.

P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor, if you feel unwell.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P304+P312 IF INHALED: Call a POISON CENTER/doctor, if you feel unwell.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P308+P313 IF exposed or concerned: Get medical advice/attention.

P332+P313 IF skin irritation occurs: Get medical advice/attention.

P337+P313 If eye irritation persists: Get medical advice/attention.

P361+P364 Take off immediately all contaminated clothing and wash it before reuse.

P370+P378 In case of fire: Use appropriate media to extinguish.

P405 Store locked up.

P403+P233 Store in a well-ventilated place. Keep container tightly closed.

P403+P235 Store in a well-ventilated place. Keep cool.

Store in a well-ventilated place. Protect from sunlight. Do not expose to temperatures exceeding 50deg.C.

P501 Dispose of contents/container in accordance with local/regional/national/international regulation.

### 3 COMPOSITION/INFORMATION ON INGREDIENTS

Substance or Preparation: Preparation.

Chemical nature: additive solution

Ingredient Name	CAS No.	Concentration[%]	EC No.
pentane-2,4-dione ; acetylacetone	123-54-6	85-90	204-634-0
dibutyltin dilaurate	77-58-7	10-15	201-039-8

Notes: this product contained the following substances that present a human hazard in accordance with

EC No. 1272/2008.

ML code is one of manufacturer's own marks to control the quantity of new material for the countries that regulate the new material.

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## 4 FIRST-AID MEASURES

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- Inhalation:** If inhaled, remove to fresh air.  
If not breathing, give artificial respiration.  
If breathing is difficult, give oxygen.  
Get medical attention immediately.
- Skin contact:** In case of contact, immediately wash skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.  
Get medical attention immediately.
- Eye contact:** In case of contact, immediately flush eyes with plenty of water for at least 15 minutes.  
If easy to do, remove contact lenses, if worn.  
Get medical attention immediately.  
Call a physician if irritation develops and persists.
- Ingestion:** If swallowed, do NOT induce vomiting unless directed to do so by medical personnel.  
Never give anything by mouth to an unconscious person.  
Get medical attention immediately.

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## 5 FIRE-FIGHTING MEASURES

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- Do NOT use water jet.  
Use water spray or dry chemicals.  
Keep adjacent receptacles cool with copious quantities of water.
- suitable fire-extinguishing media  
[ OK ]water fog,[ OK ]CO2,[ OK ]foam,[ OK ]dry chemicals,[ OK ]dry sand.
- Notes:** Fire will produce dense black smoke.  
Decomposition products may be hazardous to health.  
Avoid exposure and use breathing apparatus as appropriate.  
Cool closed containers exposed to fire by spraying them with water.  
Do not allow run off water and contaminants from fire fighting to enter drains or watercourses.  
See section 10.

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## 6 ACCIDENTAL RELEASE MEASURES

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- Avoid all sources of ignition(e.g.naked lights, unprotected light bulbs,electric handtools).  
Ventilate the area and avoid breathing vapors.  
Wear protective clothing and self-contained breathing apparatus when dealing with spillage or fire.  
Collect spillage, where practicable, for safe disposal.  
Should be disposed of wastes and empty containers in accordance with regulations made under the control of pollution acts and the environmental protection acts.  
Collect spillage, where practicable, using absorbent material, and dispose of spillage on the floor in a safe manner.  
Keep away from drains,surface- and ground-water and soil.  
Do not allow spills to enter drains or water courses.

Refer to headings 8 and 13.

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## 7 HANDLING AND STORAGE

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### Handling:

Keep away from heat, sparks, and flame.

Keep container closed.

The product may charge electro statically.

Operators should wear clothing which dose not generate static (at least 60% natural fiber) and antistatic food wear.

Do not breath (dust, vapor, mist, gas).

Use only with ventilation.

Do not get in eyes, on skin, or on clothing.

Avoid prolonged or repeated contact with skin.

Wash thoroughly after handling.

Do not take internally.

Do not taste or swallow.

Avoid release to environment.

Protection as shown in section 8.

### Storage:

Keep container closed.

Avoid prolonged or repeated contact with skin and inhalation.

Keep away from heat, sparks and flame.

Store in a well-ventilated, dry place away from sources of heat and direct sunshine.

Do not store above 40 deg.C. (104 deg.F.).

Avoid prolonged or repeated contact with skin.

Keep locked up.

Do not take internally.

Do not taste or swallow.

Do not allow to environment.

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## 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

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Engineering Measures: Prevent vapor build up by providing adequate ventilation during and after use.  
An eye wash facility should be readily available.  
The product should not be allowed to enter environment.  
Facilities storing or utilizing this material should be equipped with an eye wash facility and a safety shower.

### Exposure limit:

<u>Ingredient name</u>	<u>EU TLV(TWA)</u>	<u>ACGIH TLV(TWA)</u>
pentane-2,4-dione ; acetylacetone	not est.	25 ppm
dibutyltin dilaurate	not est.	0.1(Sn) mg/m3

Notes:(RD)=respirable dust. ( c )=ceiling limit. (Skin)=skin penetrative.  
Mppcf=millions of particles per cubic foot.

### Personal protection:

Respiratory protection: Wear appropriate equipment shown in EU directive 89/656/EC.

Hand protection: Wear impervious gloves.

Eye protection:	Wear chemical splash goggles and face shield when eye and face contact is possible due to splashing or spraying of material.
Skin protection:	Wear chemical resistant clothing such as gloves, apron, boots or whole bodysuits made from neoprene, as appropriate.
Environmental exposure control:	Do NOT let this product enter the environment.

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## 9 PHYSICAL AND CHEMICAL PROPERTIES

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Physical state:	Liquid
color:	colorless
odor:	solvent odor
pH:	no data.
boiling point(range):	140 - 141[deg.C](284 - 286[deg.F])
flash point:	35[deg.C](95[deg.F])
ignition temperature:	340[deg.C](644[deg.F])
lower explosive limit:	1.7[%]
higher explosive limit:	no data.
vapor pressure:	1333.2[Pa]
specific density:	0.98/20[deg.C](68[deg.F])
vapor density:	The vapor and the gas are heavier than air.
solubility in water:	None or poor in water
percentage volatile:	89.9[%]

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## 10 STABILITY AND REACTIVITY

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Stability:	Stable under recommended storage and handling conditions (see section 7). When exposed to high temperature, may produce hazardous decomposition products such as carbon monoxide, carbon dioxide, oxides of nitrogen and smoke.
Hazardous reaction:	Hazardous reaction will not occur.
Condition to avoid:	Avoid heating temperatures above 40 deg.C.
Materials to avoid:	Keep away from oxidizing agents, strongly alkaline and strongly acid materials in order to avoid possible exothermic reactions.
Hazardous decomposition products:	The products decomposed on heating producing their oxide or monomers.

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## 11 TOXICOLOGICAL INFORMATION

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There are no data available on the product itself.

Toxicological information of ingredients:

acute toxicity:

pentane-2,4-dione ; acetylacetone

LC50(inhalation:vapour, rat)=1224[ppm/1H]

LD50(skin, rabbit)=790[mg/kg]

LD50(oral, rat)=570[mg/kg]

dibutyltin dilaurate

LC50(inhalation:dust, mist, rat)=0.075[mg/L/1H]

LD50(skin, rabbit)=2001[mg/kg]

LD50(oral, rat)=175[mg/kg]

local effects:

eye irritant

dibutyltin dilaurate  
skin irritant  
dibutyltin dilaurate  
sensitization:  
No data.  
chronically long term effect:  
dibutyltin dilaurate  
specific effects  
toxic for reproduction  
dibutyltin dilaurate  
Toxic for reproduction(CLP)

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## 12 ECOLOGICAL INFORMATION

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For spills or waste, take care to avoid contaminating environment.

Prevent spills and wastewater from entering sewers, water courses or law areas to avoid pollution.

There are no data available on the product itself.

Ecological information of ingredients

persistence pentane-2,4-dione ; acetylacetone biodegradable:79-88%(4week/ )

Data are based on "Biological and Bioaccumulation Data of Existing Chemicals Based on the SCSL Japan" Compiled under the supervision of METI(MITI) Japan.

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## 13 DISPOSAL CONSIDERATIONS

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The product should not be allowed to inter drains and watercourses.

All notification, clean-up and disposal should be carried out in accordance with European Union, governmental and local regulations

Preferred method of waste disposal are incineration or biological treatment in federal/state approved facility

Wastes and empty containers should be disposed of in accordance with regulations made under the control of pollution acts and the environmental protection acts

Empty containers should be recycled or disposed of through an approved waste management facility.

It is strongly advised not to let the chemical enter into the environment.

It may be toxic or harmful to aquatic organisms.

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## 14 TRANSPORT INFORMATION

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UN regulation

UN Shipping name: PAINT(including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning or reducing compound)

UN identification number: 1263

UN Class: class 3 Flammable liquids.

UN Packaging group: III

IMDG Class: class 3.3 High flashpoint group.

storage temperature Store below 40 deg.C.(104deg.F.).

See section 7, Handling and storage.

UN MARINE POLLUTANT MARINE POLLUTANT. Paste the label of "MARINE POLLUTANT".

## 15 REGULATORY INFORMATION

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The information on the SDS is based on the present state of our knowledge and on current EU laws.  
Please refer to any other national measures that may be relevant.

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## 16 OTHER INFORMATION

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R22:Harmful if swallowed

R24:Toxic in contact with skin

R27:Very toxic in contact with skin.

R36/37/38:Irritating to eyes, respiratory system and skin

R51/53:Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R60:May impair fertility

R61:May cause harm to the unborn child

S16:Keep away from sources of ignition -- No smoking

S20:When using do not eat or drinks.

S23:Do not breath gas/fumes/vapor/spray (appropriate wording to be specified by the manufacturer).

S26:In case of contact with eyes, rinse immediately with plenty of water and seek medical.

S29:Do not empty into drains.

S33:Take precautionary measures against static

S36/37/39:Wear suitable protective clothing and gloves and eye/face protection.

S37:Wear suitable gloves

S42:During fumigation/spraying wear suitable respiratory equipment.

S45:In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S53:Avoid exposure-obtain special instruction

This information contained in this data sheet represents the best information currently available to us.

However, no warranty is made with respect to its completeness and we assume no liability resulting us from its.

It is advised to make their own tests to determinate the safety and suitability of each such product or combination for their own.

Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

The product should not be used for purposes other than shown in the safety data sheet without first obtaining written advice.

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# Safety Data Sheet

## 1 PRODUCT AND COMPANY IDENTIFICATION

Product name: ECOLOSILK AXEL MARIGOLD  
 Intended use: paint  
 Manufacture:  
 Company name: NIPPON PAINT MARINE COATINGS CO., LTD.  
 Address: 2-1-2 Oyodo-kita, Kita-ku, Osaka, 531-8511 Japan  
 Telephone No.: +81-6-6455-9590  
 Facsimile No.: +81-6-6450-4085  
 24 hours Emergency telephone No.: +81-6-6455-9590

## 2 HAZARDS IDENTIFICATION

CLASSIFICATION CODE Flammable liquids:Category3  
 Acute toxicity - inhalation: vapour:Category4  
 Skin corrosion/irritation:Category2  
 Serious eye damage/eye irritation:Category2  
 Carcinogenicity:Category2  
 Toxic to Reproduction:Category1B  
 Specific target organ toxicity - single exposure:Category1  
 Specific target organ toxicity - repeated exposure:Category1

Symbol



Danger

Hazard statement H226 Flammable liquid and vapour  
 H315 Causes skin irritation  
 H319 Causes serious eye irritation  
 H332 Harmful if inhaled  
 H351 Suspected of causing cancer  
 H360 May damage fertility or the unborn child  
 H370 Causes damage to organs  
 H372 Causes damage to organs through prolonged or repeated exposure

Comment P201 Obtain special instructions before use.  
 P202 Do not handle until all safety precautions have been read and understood.  
 P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
 P233 Keep container tightly closed.  
 P240 Ground/bond container and receiving equipment.  
 P241 Use explosion-proof electrical/ventilating/lighting equipment.



P242 Use only non-sparking tools.  
P243 Take precautionary measures against static discharge.  
P260 Do not breathe dust/fume/gas/mist/vapours/spray.  
P264 Wash hands, mouth etc. thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P271 Use only outdoors or in a well-ventilated area.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P314 Get medical advice/attention if you feel unwell.  
P321 Specific treatment.(If immediate specific measures are required.)  
P330 Rinse mouth.  
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
P304+P312 IF INHALED: Call a POISON CENTER/doctor, if you feel unwell.  
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P308+P313 IF exposed or concerned: Get medical advice/attention.  
P332+P313 IF skin irritation occurs: Get medical advice/attention.  
P337+P313 If eye irritation persists: Get medical advice/attention.  
P362+P364 Take off contaminated clothing and wash it before reuse.  
P370+P378 In case of fire: Use appropriate media to extinguish.  
P405 Store locked up.  
P403+P235 Store in a well-ventilated place. Keep cool.  
Store in a well-ventilated place. Protect from sunlight. Do not expose at temperature exceeding 50deg.C.  
P501 Dispose of contents/container in accordance with local/regional/national/international regulation.

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## 3 COMPOSITION/INFORMATION ON INGREDIENTS

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Substance or Preparation: Preparation.

Chemical nature: silicone resin paint

<u>Ingredient Name</u>	<u>CAS No.</u>	<u>Concentration[%]</u>	<u>EC No.</u>
xylene	1330-20-7	10-15	215-535-7
iron hydroxide oxide	20344-49-4	1-5	243-746-4
ethylbenzene	100-41-4	1-5	202-849-4
titanium dioxide	13463-67-7	1-5	236-675-5

Notes: this product contained the following substances that present a human hazard in accordance with EC No. 1272/2008.

ML code is one of manufacturer's own marks to control the quantity of new material for the countries that regulate the new material.

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## 4 FIRST-AID MEASURES

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Inhalation: If inhaled, remove to fresh air.  
If not breathing, give artificial respiration.  
If breathing is difficult, give oxygen.  
Get medical attention immediately.

- Skin contact:** In case of contact, immediately wash skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.  
Get medical attention immediately.
- Eye contact:** In case of contact, immediately flush eyes with plenty of water for at least 15 minutes.  
If easy to do, remove contact lenses, if worn.  
Get medical attention immediately.  
Call a physician if irritation develops and persists.
- Ingestion:** If swallowed, do NOT induce vomiting unless directed to do so by medical personnel.  
Never give anything by mouth to an unconscious person.  
Get medical attention immediately.

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## 5 FIRE-FIGHTING MEASURES

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- Do NOT use water jet.  
Use water spray or dry chemicals.  
Keep adjacent receptacles cool with copious quantities of water.
- suitable fire-extinguishing media  
[ ] water fog, [ OK ] CO<sub>2</sub>, [ OK ] foam, [ OK ] dry chemicals, [ OK ] dry sand.
- Notes:** Fire will produce dense black smoke.  
Decomposition products may be hazardous to health.  
Avoid exposure and use breathing apparatus as appropriate.  
Cool closed containers exposed to fire by spraying them with water.  
Do not allow run off water and contaminants from fire fighting to enter drains or watercourses.  
See section 10.

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## 6 ACCIDENTAL RELEASE MEASURES

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- Avoid all sources of ignition (e.g. naked lights, unprotected light bulbs, electric handtools).  
Ventilate the area and avoid breathing vapors.  
Wear protective clothing and self-contained breathing apparatus when dealing with spillage or fire.  
Collect spillage, where practical, for safe disposal.  
Should be disposed of wastes and empty containers in accordance with regulations made under the control of pollution acts and the environmental protection acts.  
Collect spillage using absorbent material and dispose of spillage on the floor in a safe manner.  
Keep away from drains, surface- and ground-water and soil.  
Do not allow spillage to enter drains or water courses.  
Refer to headings 8 and 13.

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## 7 HANDLING AND STORAGE

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- Handling:**  
Keep away from heat, sparks and flame.  
Keep container closed.  
The product can charge static electricity.  
Operators should wear non-static clothing (at least 60% natural fiber content) and anti-static clothing.  
Do not breathe (dust, vapor, mist, gas).  
Use only in a well ventilated space.

- Do not get in eyes, on skin, or on clothing.
- Avoid prolonged or repeated contact with skin.
- Wash thoroughly after handling.
- Do not ingest.
- Do not eat or swallow.
- Protection as shown in section 8.

**Storage:**

- Keep container closed.
- Avoid prolonged or repeated contact with skin and inhalation.
- Keep away from heat, sparks and flame.
- Store in a well-ventilated, dry place away from sources of heat and direct sunshine.
- Do not store above 40 deg.C. (104 deg.F.).
- Avoid prolonged or repeated contact with skin.
- Keep locked up.
- Do not ingest.
- Do not eat or swallow.

## 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

- Engineering Measures:** Ensure adequate ventilation during and after use to prevent vaporization.  
 An eye wash facility should be readily available.  
 Facilities storing or utilizing this material should be equipped with an eye wash facility and a safety shower.

**Exposure limit:**

<u>Ingredient name</u>	<u>EU TLV(TWA)</u>	<u>ACGIH TLV(TWA)</u>
xylene	50 ppm	100 ppm
iron hydroxide oxide	not est.	10 mg/m <sup>3</sup>
ethylbenzene	100 ppm	20 ppm
titanium dioxide	not est.	10 mg/m <sup>3</sup>

Notes:(RD)=respirable dust. ( c )=ceiling limit. (Skin)=skin penetrative.  
 Mppcf=millions of particles per cubic foot.

**Personal protection:**

- Respiratory protection:** Wear appropriate equipment shown in EU directive 89/656/EC.
- Hand protection:** Wear impervious glove.
- Eye protection:** Wear chemical splash goggles and face shield when eye and face contact is possible due to splashing or spraying of material.
- Skin protection:** Wear chemical resistant clothing such as gloves, apron, boots or whole bodysuits made from neoprene, as appropriate.

**Environmental exposure control:** Do NOT let this product enter the environment.

## 9 PHYSICAL AND CHEMICAL PROPERTIES

- Physical state:** Liquid
- color:** yellow
- odor:** solvent odor
- pH:** no data.
- boiling point(range):** 136 - 144[deg.C](277 - 291[deg.F])

flash point:	25[deg.C](77[deg.F])
ignition temperature:	400[deg.C](752[deg.F])
lower explosive limit:	1.1[%]
higher explosive limit:	7[%]
vapor pressure:	1333[Pa]
specific density:	1.08/23[deg.C](73[deg.F])
vapor density:	The vapor and the gas are heavier than air.
solubility in water:	None or poor in water
percentage volatile:	17.7[%]

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## 10 STABILITY AND REACTIVITY

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Stability:	Stable under recommended storage and handling conditions (see section 7). When exposed to high temperature, may produce hazardous decomposition products such as carbon monoxide, carbon dioxide, oxides of nitrogen and smoke.
Hazardous reaction:	Hazardous reaction will not occur.
Condition to avoid:	Avoid heating temperatures above 40 deg.C.
Materials to avoid:	Keep away from oxidizing agents, strongly alkaline and strongly acid materials in order to avoid possible exothermic reactions.
Hazardous decomposition products:	The products decomposed on heating producing their oxide or monomers.

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## 11 TOXICOLOGICAL INFORMATION

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There are no data available on the product itself.

Toxicological information of ingredients:

acute toxicity:

ethylbenzene

LC50(inhalation:vapour, rat)=4000[ppm/1H]

LD50(oral, rat)=3500[mg/kg]

xylene

LC50(inhalation:vapour, rat)=6350[ppm/1H]

LD50(skin, rabbit)=1700[mg/kg]

LD50(oral, rat)=3500[mg/kg]

local effects:

eye irritant

ethylbenzene

xylene

titanium dioxide

skin irritant

ethylbenzene

xylene

sensitization:

No data.

chronically long term effect:

xylene

specific effects

carcinogenic:

ethylbenzene

Carcinogenic(IARC);Class:2B

Carcinogenic(OSHA)

Carcinogenic(CLP)  
xylene  
Carcinogenic(NTP);Known to be human carcinogen  
titanium dioxide  
Carcinogenic(IARC);Class:2B  
Carcinogenic(OSHA)  
toxic for reproduction  
ethylbenzene  
Toxic for reproduction(CLP)  
xylene  
Toxic for reproduction(CLP)

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## 12 ECOLOGICAL INFORMATION

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For spillage or waste, take care to avoid contaminating the environment.  
Prevent leakage into the sewer, waterway or legal areas to avoid pollution.  
There are no data available on the product itself.  
Ecological information of ingredients

persistence ethylbenzene biodegradable:81-100%(2week/ )

Data are based on "Biological and Bioaccumulation Data of Existing Chemicals Based on the CSCL Japan" Compiled under the supervision of METI(MITI) Japan.

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## 13 DISPOSAL CONSIDERATIONS

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The product should not be allowed to release into the drains and watercourses.  
All notification, clean-up and disposal should be carried out in accordance with European Union, governmental and local regulations  
Preferred method of waste disposal are incineration or biological treatment in federal/state approved facility  
Wastes and empty containers should be disposed of in accordance with regulations made under the control of pollution acts and the environmental protection acts  
Empty containers should be recycled or disposed of through an approved waste management facility.  
It is strongly advised not to let the chemical enter into the environment.

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## 14 TRANSPORT INFORMATION

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UN regulation

UN Shipping name:	PAINT(including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning or reducing compound)
UN identification number:	1263
UN Class:	class 3 Flammable liquids.
UN Packaging group:	III
IMDG Class:	class 3.3 High flashpoint group.
storage temperature	Store below 40 deg.C.(104deg.F.). See section 7, Handling and storage.

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## 15 REGULATORY INFORMATION

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The information on the SDS is based on the present state of our knowledge and on current EU laws.  
Please refer to any other national measures that may be relevant.

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## 16 OTHER INFORMATION

---

This information contained in this data sheet represents the best information currently available to us.  
However, no warranty is made with respect to its completeness and we assume no liability resulting from it.

It is advised to make their own tests to determinate the safety and suitability of each such product or combination for their own.

Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

The product should not be used for purposes other than shown in the safety data sheet without first obtaining written advice.

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# Safety Data Sheet

## 1 PRODUCT AND COMPANY IDENTIFICATION

Product name: ECOLOSILK CURING AGENT  
 Intended use: hardener for paint  
 Manufacture:  
 Company name: NIPPON PAINT MARINE COATINGS CO., LTD.  
 Address: 2-1-2 Oyodo-kita, Kita-ku, Osaka, 531-8511 Japan  
 Telephone No.: +81-6-6455-9590  
 Facsimile No.: +81-6-6450-4085  
 24 hours Emergency telephone No.: +81-6-6455-9590

## 2 HAZARDS IDENTIFICATION

CLASSIFICATION CODE Flammable liquids:Category3  
 Acute toxicity - inhalation: vapour:Category4  
 Skin corrosion/irritation:Category2  
 Serious eye damage/eye irritation:Category2  
 Germ cell mutagenicity:Category1B  
 Carcinogenicity:Category2  
 Toxic to Reproduction:Category1A  
 Specific target organ toxicity - single exposure:Category1,Category2,Category3  
 Specific target organ toxicity - repeated exposure:Category1,Category2  
 Chronic hazards to the aquatic environment:Category2

Symbol



Hazard statement Danger  
 H226 Flammable liquid and vapour  
 H315 Causes skin irritation  
 H319 Causes serious eye irritation  
 H332 Harmful if inhaled  
 H340 May cause generic defects  
 H351 Suspected of causing cancer  
 H360 May damage fertility or the unborn child  
 H370 Causes damage to organs  
 H372 Causes damage to organs through prolonged or repeated exposure  
 H411 Toxic to aquatic life with long lasting effect  
 Comment P201 Obtain special instructions before use.  
 P202 Do not handle until all safety precautions have been read and understood.

- P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
 P233 Keep container tightly closed.  
 P240 Ground/bond container and receiving equipment.  
 P241 Use explosion-proof electrical/ventilating/lighting equipment.  
 P242 Use only non-sparking tools.  
 P243 Take precautionary measures against static discharge.  
 P260 Do not breathe dust/fume/gas/mist/vapours/spray.  
 P264 Wash hands, mouth etc. thoroughly after handling.  
 P270 Do not eat, drink or smoke when using this product.  
 P271 Use only outdoors or in a well-ventilated area.  
 P273 Avoid release to the environment, if this is not the intended use.  
 P280 Wear protective gloves/protective clothing/eye protection/face protection.  
 P314 Get medical advice/attention if you feel unwell.  
 P321 Specific treatment.(If immediate specific measures are required.)  
 P330 Rinse mouth.  
 P391 Collect spillage.  
 P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
 P304+P312 IF INHALED: Call a POISON CENTER/doctor, if you feel unwell.  
 P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P308+P313 IF exposed or concerned: Get medical advice/attention.  
 P332+P313 IF skin irritation occurs: Get medical advice/attention.  
 P337+P313 If eye irritation persists: Get medical advice/attention.  
 P362+P364 Take off contaminated clothing and wash it before reuse.  
 P370+P378 In case of fire: Use appropriate media to extinguish.  
 P405 Store locked up.  
 P403+P235 Store in a well-ventilated place. Keep cool.  
 Store in a well-ventilated place. Protect from sunlight. Do not expose to temperatures exceeding 50deg.C.  
 P501 Dispose of contents/container in accordance with local/regional/national/international regulation.

## 3 COMPOSITION/INFORMATION ON INGREDIENTS

Substance or Preparation: Preparation.

Chemical nature: silicone resin hardener

<u>Ingredient Name</u>	<u>CAS No.</u>	<u>Concentration[%]</u>	<u>EC No.</u>
xylene	1330-20-7	45-50	215-535-7
ethylbenzene	100-41-4	5-10	202-849-4
tetraethyl silicate	78-10-4	1-5	201-083-8
ethanol	64-17-5	0.1-1	200-578-6

Notes: this product contained the following substances that present a human hazard in accordance with

EC No. 1272/2008.

ML code is one of manufacturer's own marks to control the quantity of new material for the countries that regulate the new material.



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## 4 FIRST-AID MEASURES

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- Inhalation:** If inhaled, remove to fresh air.  
If not breathing, give artificial respiration.  
If breathing is difficult, give oxygen.  
Get medical attention immediately.
- Skin contact:** In case of contact, immediately wash skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.  
Get medical attention immediately.
- Eye contact:** In case of contact, immediately flush eyes with plenty of water for at least 15 minutes.  
If easy to do, remove contact lenses, if worn.  
Get medical attention immediately.  
Call a physician if irritation develops and persists.
- Ingestion:** If swallowed, do NOT induce vomiting unless directed to do so by medical personnel.  
Never give anything by mouth to an unconscious person.  
Get medical attention immediately.

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## 5 FIRE-FIGHTING MEASURES

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- Do NOT use water jet.  
Use water spray or dry chemicals.  
Keep adjacent receptacles cool with copious quantities of water.
- suitable fire-extinguishing media  
[ OK ]water fog,[ OK ]CO<sub>2</sub>,[ OK ]foam,[ OK ]dry chemicals,[ OK ]dry sand.
- Notes:** Fire will produce dense black smoke.  
Decomposition products may be hazardous to health.  
Avoid exposure and use breathing apparatus as appropriate.  
Cool closed containers exposed to fire by spraying them with water.  
Do not allow run off water and contaminants from fire fighting to enter drains or watercourses.  
See section 10.

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## 6 ACCIDENTAL RELEASE MEASURES

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- Avoid all sources of ignition(e.g.naked lights, unprotected light bulbs,electric handtools).  
Ventilate the area and avoid breathing vapors.  
Wear protective clothing and self-contained breathing apparatus when dealing with spillage or fire.  
Collect spillage, where practicable, for safe disposal.  
Should be disposed of wastes and empty containers in accordance with regulations made under the control of pollution acts and the environmental protection acts.  
Collect spillage, where practicable, using absorbent material, and dispose of spillage on the floor in a safe manner.  
Keep away from drains,surface- and ground-water and soil.  
Do not allow spills to enter drains or water courses.  
Refer to headings 8 and 13.
-

## 7 HANDLING AND STORAGE

### Handling:

Keep away from heat, sparks, and flame.

Keep container closed.

The product may charge electro statically.

Operators should wear clothing which dose not generate static (at least 60% natural fiber) and antistatic food wear.

Do not breath (dust, vapor, mist, gas).

Use only with ventilation.

Do not get in eyes, on skin, or on clothing.

Avoid prolonged or repeated contact with skin.

Wash thoroughly after handling.

Do not take internally.

Do not taste or swallow.

Avoid release to environment.

Protection as shown in section 8.

### Storage:

Keep container closed.

Avoid prolonged or repeated contact with skin and inhalation.

Keep away from heat, sparks and flame.

Store in a well-ventilated, dry place away from sources of heat and direct sunshine.

Do not store above 40 deg.C. (104 deg.F.).

Avoid prolonged or repeated contact with skin.

Keep locked up.

Do not take internally.

Do not taste or swallow.

Do not allow to environment.

## 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Measures: Prevent vapor build up by providing adequate ventilation during and after use.

An eye wash facility should be readily available.

The product should not be allowed to enter environment.

Facilities storing or utilizing this material should be equipped with an eye wash facility and a safety shower.

### Exposure limit:

<u>Ingredient name</u>	<u>EU TLV(TWA)</u>	<u>ACGIH TLV(TWA)</u>
xylene	50 ppm	100 ppm
ethylbenzene	100 ppm	100 ppm
tetraethyl silicate	not est.	10 ppm
ethanol	not est.	1000 ppm

Notes:(RD)=respirable dust. ( c )=ceiling limit. (Skin)=skin penetrative.

Mppcf=millions of particles per cubic foot.

### Personal protection:

Respiratory protection: Wear appropriate equipment shown in EU directive 89/656/EC.

Hand protection: Wear impervious gloves.

Eye protection:	Wear chemical splash goggles and face shield when eye and face contact is possible due to splashing or spraying of material.
Skin protection:	Wear chemical resistant clothing such as gloves, apron, boots or whole bodysuits made from neoprene, as appropriate.
Environmental exposure control:	Do NOT let this product enter the environment.

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## 9 PHYSICAL AND CHEMICAL PROPERTIES

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Physical state:	Liquid
color:	colorless
odor:	solvent odor
pH:	no data.
boiling point(range):	136 - 144[deg.C](277 - 291[deg.F])
flash point:	25[deg.C](77[deg.F])
ignition temperature:	400[deg.C](752[deg.F])
lower explosive limit:	1.1[%]
higher explosive limit:	7[%]
vapor pressure:	1333[Pa]
specific density:	0.94/20[deg.C](68[deg.F])
vapor density:	The vapor and the gas are heavier than air.
solubility in water:	None or poor in water
percentage volatile:	57.5[%]

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## 10 STABILITY AND REACTIVITY

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Stability:	Stable under recommended storage and handling conditions (see section 7). When exposed to high temperature, may produce hazardous decomposition products such as carbon monoxide, carbon dioxide, oxides of nitrogen and smoke.
Hazardous reaction:	Hazardous reaction will not occur.
Condition to avoid:	Avoid heating temperatures above 40 deg.C.
Materials to avoid:	Keep away from oxidizing agents, strongly alkaline and strongly acid materials in order to avoid possible exothermic reactions.
Hazardous decomposition products:	The products decomposed on heating producing their oxide or monomers.

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## 11 TOXICOLOGICAL INFORMATION

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There are no data available on the product itself.

Toxicological information of ingredients:

acute toxicity:

ethylbenzene

LC50(inhalation:vapour, rat)=4000[ppm/1H]

LD50(oral, rat)=3500[mg/kg]

xylene

LC50(inhalation:vapour, rat)=6700[ppm/1H]

LD50(oral, rat)=3500[mg/kg]

local effects:

eye irritant

ethylbenzene

xylene

ethanol  
tetraethyl silicate  
skin irritant  
ethylbenzene  
xylene  
tetraethyl silicate  
sensitization:  
No data.  
chronically long term effect:  
xylene  
specific effects  
carcinogenic:  
ethylbenzene  
Carcinogenic(IARC);Class:2B  
Carcinogenic(CLP)  
toxic for reproduction  
ethylbenzene  
Toxic for reproduction(CLP)  
xylene  
Toxic for reproduction(CLP)  
ethanol  
Toxic for reproduction(CLP)  
mutagenic:  
ethanol  
Mutagenic(CLP)

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## 12 ECOLOGICAL INFORMATION

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For spills or waste, take care to avoid contaminating environment.  
Prevent spills and wastewater from entering sewers, water courses or law areas to avoid pollution.  
There are no data available on the product itself.  
Ecological information of ingredients  
persistence ethylbenzene biodegradable:81-100%(2week/ )  
Data are based on "Biological and Bioaccumulation Data of Existing Chemicals Based on the SCSL Japan" Complied under the supervision of METI(MITI) Japan.

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## 13 DISPOSAL CONSIDERATIONS

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The product should not be allowed to inter drains and watercourses.  
All notification, clean-up and disposal should be carried out in accordance with European Union, governmental and local regulations  
Preferred method of waste disposal are incineration or biological treatment in federal/state approved facility  
Wastes and empty containers should be disposed of in accordance with regulations made under the control of pollution acts and the environmental protection acts  
Empty containers should be recycled or disposed of through an approved waste management facility.  
It is strongly advised not to let the chemical enter into the environment.  
It may be toxic or harmful to aquatic organisms.

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## 14 TRANSPORT INFORMATION

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**UN regulation**

UN Shipping name:	RESIN SOLUTION, flammable
UN identification number:	1866
UN Class:	class 3 Flammable liquids.
UN Packaging group:	III
IMDG Class:	class 3.3 High flashpoint group.
storage temperature	Store below 40 deg.C.(104deg.F.). See section 7, Handling and storage.
UN MARINE POLLUTANT	MARINE POLLUTANT. Paste the label of "MARINE POLLUTANT".

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## 15 REGULATORY INFORMATION

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The information on the SDS is based on the present state of our knowledge and on current EU laws.  
Please refer to any other national measures that may be relevant.

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## 16 OTHER INFORMATION

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R20:Harmful by inhalation  
R36/38:Irritating to eyes and skin  
R39/24:Toxic-danger of very serious irreversible effects in contact with skin.  
R39/24/25:Toxic-danger of very serious irreversible effects in contact with skin and if swallowed.  
R51/53:Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.  
R60:May impair fertility  
R61:May cause harm to the unborn child  
S16:Keep away from sources of ignition -- No smoking  
S23:Do not breath gas/fumes/vapor/spray (appropriate wording to be specified by the manufacturer).  
S26:In case of contact with eyes, rinse immediately with plenty of water and seek medical.  
S28:After contact with skin, wash immediately with plenty of WATER and SOAP.  
S29:Do not empty into drains.  
S33:Take precautionary measures against static  
S36/37/39:Wear suitable protective clothing and gloves and eye/face protection.  
S37:Wear suitable gloves  
S45:In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).  
S53:Avoid exposure-obtain special instruction

This information contained in this data sheet represents the best information currently available to us.

However, no warranty is made with respect to its completeness and we assume no liability resulting us from its.

It is advised to make their own tests to determinate the safety and suitability of each such product or combination for their own.

Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

The product should not be used for purposes other than shown in the safety data sheet without first obtaining written advice.

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# Safety Data Sheet

## 1 PRODUCT AND COMPANY IDENTIFICATION

Product name: ECOLOSILK GRAY BASE  
 Intended use: paint  
 Manufacture:  
 Company name: NIPPON PAINT MARINE COATINGS CO., LTD.  
 Address: 2-1-2 Oyodo-kita, Kita-ku, Osaka, 531-8511 Japan  
 Telephone No.: +81-6-6455-9590  
 Facsimile No.: +81-6-6450-4085  
 24 hours Emergency telephone No.: +81-6-6455-9590

## 2 HAZARDS IDENTIFICATION

CLASSIFICATION CODE Flammable liquids:Category3  
 Acute toxicity - inhalation: vapour:Category4  
 Serious eye damage/eye irritation:Category2  
 Carcinogenicity:Category2  
 Toxic to Reproduction:Category1B  
 Specific target organ toxicity - single exposure:Category1,Category2  
 Specific target organ toxicity - repeated exposure:Category1

Symbol



Hazard statement Danger  
 H226 Flammable liquid and vapour  
 H319 Causes serious eye irritation  
 H332 Harmful if inhaled  
 H351 Suspected of causing cancer  
 H360 May damage fertility or the unborn child  
 H370 Causes damage to organs  
 H372 Causes damage to organs through prolonged or repeated exposure

Comment P201 Obtain special instructions before use.  
 P202 Do not handle until all safety precautions have been read and understood.  
 P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
 P233 Keep container tightly closed.  
 P240 Ground/bond container and receiving equipment.  
 P241 Use explosion-proof electrical/ventilating/lighting equipment.  
 P242 Use only non-sparking tools.  
 P243 Take precautionary measures against static discharge.

P260 Do not breathe dust/fume/gas/mist/vapours/spray.  
P264 Wash hands, mouth etc. thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P271 Use only outdoors or in a well-ventilated area.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P314 Get medical advice/attention if you feel unwell.  
P321 Specific treatment.(If immediate specific measures are required.)  
P330 Rinse mouth.  
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
P304+P312 IF INHALED: Call a POISON CENTER/doctor, if you feel unwell.  
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P308+P313 IF exposed or concerned: Get medical advice/attention.  
P337+P313 If eye irritation persists: Get medical advice/attention.  
P370+P378 In case of fire: Use appropriate media to extinguish.  
P405 Store locked up.  
P403+P235 Store in a well-ventilated place. Keep cool.  
Store in a well-ventilated place. Protect from sunlight. Do not expose to temperatures exceeding 50deg.C.  
P501 Dispose of contents/container in accordance with local/regional/national/international regulation.

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## 3 COMPOSITION/INFORMATION ON INGREDIENTS

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Substance or Preparation: Preparation.

Chemical nature: silicone resin paint

<u>Ingredient Name</u>	<u>CAS No.</u>	<u>Concentration[%]</u>	<u>EC No.</u>
xylene	1330-20-7	5-10	215-535-7
ethylbenzene	100-41-4	1-5	202-849-4

Notes: this product contained the following substances that present a human hazard in accordance with

EC No. 1272/2008.

ML code is one of manufacturer's own marks to control the quantity of new material for the countries that regulate the new material.

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## 4 FIRST-AID MEASURES

---

Inhalation: If inhaled, remove to fresh air.  
If not breathing, give artificial respiration.  
If breathing is difficult, give oxygen.  
Get medical attention immediately.

Skin contact: In case of contact, immediately wash skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.  
Get medical attention immediately.

Eye contact: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes.  
If easy to do, remove contact lenses, if worn.

Get medical attention immediately.  
Call a physician if irritation develops and persists.  
Ingestion: If swallowed, do NOT induce vomiting unless directed to do so by medical personnel.  
Never give anything by mouth to an unconscious person.  
Get medical attention immediately.

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## 5 FIRE-FIGHTING MEASURES

---

Do NOT use water jet.  
Use water spray or dry chemicals.  
Keep adjacent receptacles cool with copious quantities of water.  
suitable fire-extinguishing media  
[ OK ]water fog,[ OK ]CO2,[ OK ]foam,[ OK ]dry chemicals,[ OK ]dry sand.  
Notes: Fire will produce dense black smoke.  
Decomposition products may be hazardous to health.  
Avoid exposure and use breathing apparatus as appropriate.  
Cool closed containers exposed to fire by spraying them with water.  
Do not allow run off water and contaminants from fire fighting to enter drains or watercourses.  
See section 10.

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## 6 ACCIDENTAL RELEASE MEASURES

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Avoid all sources of ignition(e.g.naked lights, unprotected light bulbs,electric handtools).  
Ventilate the area and avoid breathing vapors.  
Wear protective clothing and self-contained breathing apparatus when dealing with spillage or fire.  
Collect spillage, where practicable, for safe disposal.  
Should be disposed of wastes and empty containers in accordance with regulations made under the control of pollution acts and the environmental protection acts.  
Collect spillage, where practicable, using absorbent material, and dispose of spillage on the floor in a safe manner.  
Keep away from drains,surface- and ground-water and soil.  
Do not allow spills to enter drains or water courses.  
Refer to headings 8 and 13.

---

## 7 HANDLING AND STORAGE

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Handling:  
Keep away from heat, sparks, and flame.  
Keep container closed.  
The product may charge electro statically.  
Operators should wear clothing which dose not generate static (at least 60% natural fiber) and antistatic food wear.  
Do not breath (dust, vapor, mist, gas).  
Use only with ventilation.  
Do not get in eyes, on skin, or on clothing.  
Avoid prolonged or repeated contact with skin.  
Wash thoroughly after handling.  
Do not take internally.  
Do not taste or swallow.



Protection as shown in section 8.

**Storage:**

- Keep container closed.
- Avoid prolonged or repeated contact with skin and inhalation.
- Keep away from heat, sparks and flame.
- Store in a well-ventilated, dry place away from sources of heat and direct sunshine.
- Do not store above 40 deg.C. (104 deg.F.).
- Avoid prolonged or repeated contact with skin.
- Keep locked up.
- Do not take internally.
- Do not taste or swallow.

## 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

**Engineering Measures:** Prevent vapor build up by providing adequate ventilation during and after use.  
 An eye wash facility should be readily available.  
 Facilities storing or utilizing this material should be equipped with an eye wash facility and a safety shower.

**Exposure limit:**

<u>Ingredient name</u>	<u>EU TLV(TWA)</u>	<u>ACGIH TLV(TWA)</u>
xylene	50 ppm	100 ppm
ethylbenzene	100 ppm	100 ppm

Notes:(RD)=respirable dust. ( c )=ceiling limit. (Skin)=skin penetrative.  
 Mppcf=millions of particles per cubic foot.

**Personal protection:**

- Respiratory protection:** Wear appropriate equipment shown in EU directive 89/656/EC.
- Hand protection:** Wear impervious gloves.
- Eye protection:** Wear chemical splash goggles and face shield when eye and face contact is possible due to splashing or spraying of material.
- Skin protection:** Wear chemical resistant clothing such as gloves, apron, boots or whole bodysuits made from neoprene, as appropriate.

**Environmental exposure control:** Do NOT let this product enter the environment.

## 9 PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Liquid
color:	gray
odor:	solvent odor
pH:	no data.
boiling point(range):	136 - 144[deg.C](277 - 291[deg.F])
flash point:	25[deg.C](77[deg.F])
ignition temperature:	400[deg.C](752[deg.F])
lower explosive limit:	1.1[%]
higher explosive limit:	7[%]
vapor pressure:	1333[Pa]
specific density:	1.05/20[deg.C](68[deg.F])
vapor density:	The vapor and the gas are heavier than air.

solubility in water: None or poor in water  
percentage volatile: 10.6[%]

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## 10 STABILITY AND REACTIVITY

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Stability: Stable under recommended storage and handling conditions (see section 7).  
When exposed to high temperature, may produce hazardous decomposition products such as carbon monoxide, carbon dioxide, oxides of nitrogen and smoke.

Hazardous reaction: Hazardous reaction will not occur.

Condition to avoid: Avoid heating temperatures above 40 deg.C.

Materials to avoid: Keep away from oxidizing agents, strongly alkaline and strongly acid materials in order to avoid possible exothermic reactions.

Hazardous decomposition products: The products decomposed on heating producing their oxide or monomers.

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## 11 TOXICOLOGICAL INFORMATION

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There are no data available on the product itself.

Toxicological information of ingredients:

acute toxicity:

ethylbenzene

LC50(inhalation:vapour, rat)=4000[ppm/1H]

LD50(oral, rat)=3500[mg/kg]

xylene

LC50(inhalation:vapour, rat)=6700[ppm/1H]

LD50(oral, rat)=3500[mg/kg]

local effects:

eye irritant

ethylbenzene

xylene

skin irritant

ethylbenzene

xylene

sensitization:

No data.

chronically long term effect:

xylene

specific effects

carcinogenic:

ethylbenzene

Carcinogenic(IARC);Class:2B

Carcinogenic(CLP)

toxic for reproduction

ethylbenzene

Toxic for reproduction(CLP)

xylene

Toxic for reproduction(CLP)

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## 12 ECOLOGICAL INFORMATION

For spills or waste, take care to avoid contaminating environment.  
Prevent spills and wastewater from entering sewers, water courses or law areas to avoid pollution.  
There are no data available on the product itself.

Ecological information of ingredients

persistence ethylbenzene biodegradable:81-100%(2week/ )

Data are based on "Biological and Bioaccumulation Data of Existing Chemicals Based on the SCSL Japan" Complied under the supervision of METI(MITI) Japan.

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## 13 DISPOSAL CONSIDERATIONS

---

The product should not be allowed to inter drains and watercourses.

All notification, clean-up and disposal should be carried out in accordance with European Union, governmental and local regulations

Preferred method of waste disposal are incineration or biological treatment in federal/state approved facility

Wastes and empty containers should be disposed of in accordance with regulations made under the control of pollution acts and the environmental protection acts

Empty containers should be recycled or disposed of through an approved waste management facility.

It is strongly advised not to let the chemical enter into the environment.

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## 14 TRANSPORT INFORMATION

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UN regulation

UN Shipping name: PAINT(including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning or reducing compound)

UN identification number: 1263

UN Class: class 3 Flammable liquids.

UN Packaging group: III

IMDG Class: class 3.3 High flashpoint group.

storage temperature Store below 40 deg.C.(104deg.F.).

See section 7, Handling and storage.

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## 15 REGULATORY INFORMATION

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The information on the SDS is based on the present state of our knowledge and on current EU laws.

Please refer to any other national measures that may be relevant.

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## 16 OTHER INFORMATION

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R20:Harmful by inhalation

R36:Irritating to eyes

R39/24:Toxic-danger of very serious irreversible effects in contact with skin.

R39/24/25:Toxic-danger of very serious irreversible effects in contact with skin and if swallowed.

R40:Possible risk of irreversible effects

R60:May impair fertility

R61:May cause harm to the unborn child

S16:Keep away from sources of ignition -- No smoking

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S23:Do not breath gas/fumes/vapor/spray (appropriate wording to be specified by the manufacturer).

S26:In case of contact with eyes, rinse immediately with plenty of water and seek medical.

S28:After contact with skin, wash immediately with plenty of WATER and SOAP.

S33:Take precautionary measures against static

S36/37/39:Wear suitable protective clothing and gloves and eye/face protection.

S45:In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S53:Avoid exposure-obtain special instruction

This information contained in this data sheet represents the best information currently available to us.

However, no warranty is made with respect to its completeness and we assume no liability resulting us from its.

It is advised to make their own tests to determinate the safety and suitability of each such product or combination for their own.

Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

The product should not be used for purposes other than shown in the safety data sheet without first obtaining written advice.

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# Safety Data Sheet

## 1 PRODUCT AND COMPANY IDENTIFICATION

Product name:	ECOSILK TIE COAT ADDITIVE
Intended use:	additive
Manufacture:	
Company name:	NIPPON PAINT MARINE COATINGS CO., LTD.
Address:	2-1-2 Oyodo-kita, Kita-ku, Osaka, 531-8511 Japan
Telephone No.:	+81-6-6455-9590
Facsimile No.:	+81-6-6450-4085
24 hours Emergency telephone No.:	+81-6-6455-9590

## 2 HAZARDS IDENTIFICATION

CLASSIFICATION CODE	Flammable liquids:Category2 Acute toxicity - inhalation: vapour:Category4 Skin corrosion/irritation:Category2 Serious eye damage/eye irritation:Category2 Carcinogenicity:Category2 Toxic to Reproduction:Category1A Toxic to Reproduction - Effects on or via lactation:Additional category on effects on or via lactation Specific target organ toxicity - single exposure:Category1,Category3 Specific target organ toxicity - repeated exposure:Category1 Chronic hazards to the aquatic environment:Category2
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Symbol



Hazard statement	Danger H225 Highly flammable liquid and vapour H315 Causes skin irritation H319 Causes serious eye irritation H332 Harmful if inhaled H351 Suspected of causing cancer H360 May damage fertility or the unborn child H362 May cause harm to breast-fed children H370 Causes damage to organs H372 Causes damage to organs through prolonged or repeated exposure H411 Toxic to aquatic life with long lasting effect
Comment	P201 Obtain special instructions before use. P202 Do not handle until all safety precautions have been read and understood.

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
 P233 Keep container tightly closed.  
 P240 Ground/bond container and receiving equipment.  
 P241 Use explosion-proof electrical/ventilating/lighting equipment.  
 P242 Use only non-sparking tools.  
 P243 Take precautionary measures against static discharge.  
 P260 Do not breathe dust/fume/gas/mist/vapours/spray.  
 P263 Avoid contact during pregnancy/while nursing.  
 P264 Wash hands, mouth etc. thoroughly after handling.  
 P270 Do not eat, drink or smoke when using this product.  
 P271 Use only outdoors or in a well-ventilated area.  
 P273 Avoid release to the environment, if this is not the intended use.  
 P280 Wear protective gloves/protective clothing/eye protection/face protection.  
 P314 Get medical advice/attention if you feel unwell.  
 P321 Specific treatment.(If immediate specific measures are required.)  
 P330 Rinse mouth.  
 P391 Collect spillage.  
 P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
 P304+P312 IF INHALED: Call a POISON CENTER/doctor, if you feel unwell.  
 P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P308+P313 IF exposed or concerned: Get medical advice/attention.  
 P332+P313 IF skin irritation occurs: Get medical advice/attention.  
 P337+P313 If eye irritation persists: Get medical advice/attention.  
 P362+P364 Take off contaminated clothing and wash it before reuse.  
 P370+P378 In case of fire: Use appropriate media to extinguish.  
 P405 Store locked up.  
 P403+P235 Store in a well-ventilated place. Keep cool.  
 Store in a well-ventilated place. Protect from sunlight. Do not expose at temperature exceeding 50deg.C.  
 P501 Dispose of contents/container in accordance with local/regional/national/international regulation.

## 3 COMPOSITION/INFORMATION ON INGREDIENTS

Substance or Preparation: Preparation.

Chemical nature: polyolefin chloride resin solution

<u>Ingredient Name</u>	<u>CAS No.</u>	<u>Concentration[%]</u>	<u>EC No.</u>
xylene	1330-20-7	60-65	215-535-7
ethylbenzene	100-41-4	10-15	202-849-4
toluene	108-88-3	10-15	203-625-9
dibutyltin dilaurate	77-58-7	0.1-1	201-039-8

Notes: this product contained the following substances that present a human hazard in accordance with

EC No. 1272/2008.

ML code is one of manufacturer's own marks to control the quantity of new material for the countries that regulate the new material.

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## 4 FIRST-AID MEASURES

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- Inhalation:** If inhaled, remove to fresh air.  
If not breathing, give artificial respiration.  
If breathing is difficult, give oxygen.  
Get medical attention immediately.
- Skin contact:** In case of contact, immediately wash skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.  
Get medical attention immediately.
- Eye contact:** In case of contact, immediately flush eyes with plenty of water for at least 15 minutes.  
If easy to do, remove contact lenses, if worn.  
Get medical attention immediately.  
Call a physician if irritation develops and persists.
- Ingestion:** If swallowed, do NOT induce vomiting unless directed to do so by medical personnel.  
Never give anything by mouth to an unconscious person.  
Get medical attention immediately.

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## 5 FIRE-FIGHTING MEASURES

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- Do NOT use water jet.  
Use water spray or dry chemicals.  
Keep adjacent receptacles cool with copious quantities of water.
- suitable fire-extinguishing media  
[ ] water fog, [ OK ] CO<sub>2</sub>, [ OK ] foam, [ OK ] dry chemicals, [ OK ] dry sand.
- Notes:** Fire will produce dense black smoke.  
Decomposition products may be hazardous to health.  
Avoid exposure and use breathing apparatus as appropriate.  
Cool closed containers exposed to fire by spraying them with water.  
Do not allow run off water and contaminants from fire fighting to enter drains or watercourses.  
See section 10.

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## 6 ACCIDENTAL RELEASE MEASURES

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- Avoid all sources of ignition (e.g. naked lights, unprotected light bulbs, electric handtools).  
Ventilate the area and avoid breathing vapors.  
Wear protective clothing and self-contained breathing apparatus when dealing with spillage or fire.  
Collect spillage, where practical, for safe disposal.  
Should be disposed of wastes and empty containers in accordance with regulations made under the control of pollution acts and the environmental protection acts.  
Collect spillage using absorbent material and dispose of spillage on the floor in a safe manner.  
Keep away from drains, surface- and ground-water and soil.  
Do not allow spillage to enter drains or water courses.  
Refer to headings 8 and 13.

---

## 7 HANDLING AND STORAGE

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**Handling:**

- Keep away from heat, sparks and flame.
- Keep container closed.
- The product can charge static electricity.
- Operators should wear non-static clothing (at least 60% natural fiber content) and anti-static clothing.
- Do not breath (dust, vapor, mist, gas).
- Use only in a well ventilated space.
- Do not get in eyes, on skin, or on clothing.
- Avoid prolonged or repeated contact with skin.
- Wash thoroughly after handling.
- Do not ingest.
- Do not eat or swallow.
- Avoid release to the environment.
- Protection as shown in section 8.

**Storage:**

- Keep container closed.
- Avoid prolonged or repeated contact with skin and inhalation.
- Keep away from heat, sparks and flame.
- Store in a well-ventilated, dry place away from sources of heat and direct sunshine.
- Do not store above 40 deg.C. (104 deg.F.).
- Avoid prolonged or repeated contact with skin.
- Keep locked up.
- Do not ingest.
- Do not eat or swallow.
- Avoid release to the environment.

## 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

**Engineering Measures:** Ensure adequate ventilation during and after use to prevent vaporization.  
 An eye wash facility should be readily available.  
 The product should not be allowed to enter the environment.  
 Facilities storing or utilizing this material should be equipped with an eye wash facility and a safety shower.

**Exposure limit:**

<u>Ingredient name</u>	<u>EU TLV(TWA)</u>	<u>ACGIH TLV(TWA)</u>
xylene	50 ppm	100 ppm
ethylbenzene	100 ppm	20 ppm
toluene	not est.	20 ppm
dibutyltin dilaurate	not est.	0.1(Sn) mg/m3

Notes:(RD)=respirable dust. ( c )=ceiling limit. (Skin)=skin penetrative.  
 Mppcf=millions of particles per cubic foot.

**Personal protection:**

- Respiratory protection:** Wear appropriate equipment shown in EU directive 89/656/EC.
- Hand protection:** Wear impervious glove.
- Eye protection:** Wear chemical splash goggles and face shield when eye and face contact is possible due to splashing or spraying of material.
- Skin protection:** Wear chemical resistant clothing such as gloves, apron, boots or whole bodysuits made from neoprene, as appropriate.



Environmental exposure control: Do NOT let this product enter the environment.

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## 9 PHYSICAL AND CHEMICAL PROPERTIES

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Physical state:	Liquid
color:	colorless or pale yellow
odor:	solvent odor
pH:	no data.
boiling point(range):	111 - 259[deg.C](232 - 498[deg.F])
flash point:	4[deg.C](39.2[deg.F])
ignition temperature:	300[deg.C](572[deg.F])
lower explosive limit:	1.1[%]
higher explosive limit:	7[%]
vapor pressure:	4893[Pa]
specific density:	0.89/23[deg.C](73[deg.F])
vapor density:	The vapor and the gas are heavier than air.
solubility in water:	None or poor in water
percentage volatile:	88.4[%]

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## 10 STABILITY AND REACTIVITY

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Stability:	Stable under recommended storage and handling conditions (see section 7). When exposed to high temperature, may produce hazardous decomposition products such as carbon monoxide, carbon dioxide, oxides of nitrogen and smoke.
Hazardous reaction:	Hazardous reaction will not occur.
Condition to avoid:	Avoid heating temperatures above 40 deg.C.
Materials to avoid:	Keep away from oxidizing agents, strongly alkaline and strongly acid materials in order to avoid possible exothermic reactions.
Hazardous decomposition products:	The products decomposed on heating producing their oxide or monomers.

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## 11 TOXICOLOGICAL INFORMATION

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There are no data available on the product itself.

Toxicological information of ingredients:

acute toxicity:

ethylbenzene

LC50(inhalation:vapour, rat)=4000[ppm/1H]

LD50(oral, rat)=3500[mg/kg]

toluene

LC50(inhalation:vapour, rat)=4000[ppm/1H]

LD50(oral, rat)=5000[mg/kg]

xylene

LC50(inhalation:vapour, rat)=6350[ppm/1H]

LD50(skin, rabbit)=1700[mg/kg]

LD50(oral, rat)=3500[mg/kg]

dibutyltin dilaurate

LC50(inhalation:dust, mist, rat)=0.075[mg/L/1H]

LD50(skin, rabbit)=2001[mg/kg]

LD50(oral, rat)=175[mg/kg]



local effects:

- eye irritant
  - ethylbenzene
  - toluene
  - xylene
  - dibutyltin dilaurate
- skin irritant
  - ethylbenzene
  - toluene
  - xylene
  - dibutyltin dilaurate

sensitization:

No data.

chronically long term effect:

- toluene
- xylene

specific effects

carcinogenic:

- ethylbenzene
  - Carcinogenic(IARC);Class:2B
  - Carcinogenic(OSHA)
  - Carcinogenic(CLP)
- toluene
  - Carcinogenic(NTP);Known to be human carcinogen
- xylene
  - Carcinogenic(NTP);Known to be human carcinogen

toxic for reproduction

- ethylbenzene
  - Toxic for reproduction(CLP)
- toluene
  - Toxic for reproduction(CLP)
- xylene
  - Toxic for reproduction(CLP)
- dibutyltin dilaurate
  - Toxic for reproduction(CLP)

## 12 ECOLOGICAL INFORMATION

For spillage or waste, take care to avoid contaminating the environment.  
 Prevent leakage into the sewer, waterway or legal areas to avoid pollution.  
 There are no data available on the product itself.

Ecological information of ingredients

- acute toxicity      toluene TLm(24,96h,fish)=10-60mg/L
- persistence        ethylbenzene biodegradable:81-100%(2week/ )
- toluene biodegradable:100%(2week/ )

Data are based on "Biological and Bioaccumulation Data of Existing Chemicals Based on the CSCL Japan" Compiled under the supervision of METI(MITI) Japan.

## 13 DISPOSAL CONSIDERATIONS

The product should not be allowed to release into the drains and watercourses.

All notification, clean-up and disposal should be carried out in accordance with European Union, governmental and local regulations

Preferred method of waste disposal are incineration or biological treatment in federal/state approved facility

Wastes and empty containers should be disposed of in accordance with regulations made under the control of pollution acts and the environmental protection acts

Empty containers should be recycled or disposed of through an approved waste management facility.

It is strongly advised not to let the chemical enter into the environment.

It may be toxic or harmful to aquatic organisms.

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## 14 TRANSPORT INFORMATION

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### UN regulation

UN Shipping name: PAINT(including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning or reducing compound)

UN identification number: 1263

UN Class: class 3 Flammable liquids.

UN Packaging group: II

IMDG Class: class 3.2 Intermediate flashpoint group.

storage temperature Store below 40 deg.C.(104deg.F.).

See section 7, Handling and storage.

UN MARINE POLLUTANT MARINE POLLUTANT. Paste the label of "MARINE POLLUTANT".

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## 15 REGULATORY INFORMATION

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The information on the SDS is based on the present state of our knowledge and on current EU laws.

Please refer to any other national measures that may be relevant.

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## 16 OTHER INFORMATION

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This information contained in this data sheet represents the best information currently available to us.

However, no warranty is made with respect to its completeness and we assume no liability resulting from it.

It is advised to make their own tests to determinate the safety and suitability of each such product or combination for their own.

Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

The product should not be used for purposes other than shown in the safety data sheet without first obtaining written advice.

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# Safety Data Sheet

## 1 PRODUCT AND COMPANY IDENTIFICATION

Product name:	ECOSILK TIE COAT CURING AGENT
Intended use:	hardener for paint
Manufacture:	
Company name:	NIPPON PAINT MARINE COATINGS CO., LTD.
Address:	2-1-2 Oyodo-kita, Kita-ku, Osaka, 531-8511 Japan
Telephone No.:	+81-6-6455-9590
Facsimile No.:	+81-6-6450-4085
24 hours Emergency telephone No.:	+81-6-6455-9590

## 2 HAZARDS IDENTIFICATION

CLASSIFICATION CODE	Flammable liquids:Category3 Acute toxicity - inhalation: vapour:Category4 Serious eye damage/eye irritation:Category2 Carcinogenicity:Category1A Specific target organ toxicity - single exposure:Category1,Category3 Specific target organ toxicity - repeated exposure:Category1,Category2
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Symbol



Hazard statement	Danger H226 Flammable liquid and vapour H319 Causes serious eye irritation H332 Harmful if inhaled H350 May cause cancer H370 Causes damage to organs H372 Causes damage to organs through prolonged or repeated exposure
Comment	P201 Obtain special instructions before use. P202 Do not handle until all safety precautions have been read and understood. P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking. P233 Keep container tightly closed. P240 Ground/bond container and receiving equipment. P241 Use explosion-proof electrical/ventilating/lighting equipment. P242 Use only non-sparking tools. P243 Take precautionary measures against static discharge. P260 Do not breathe dust/fume/gas/mist/vapours/spray. P264 Wash hands, mouth etc. thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.  
P271 Use only outdoors or in a well-ventilated area.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P314 Get medical advice/attention if you feel unwell.  
P321 Specific treatment.(If immediate specific measures are required.)  
P330 Rinse mouth.  
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
P304+P312 IF INHALED: Call a POISON CENTER/doctor, if you feel unwell.  
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P308+P313 IF exposed or concerned: Get medical advice/attention.  
P337+P313 If eye irritation persists: Get medical advice/attention.  
P370+P378 In case of fire: Use appropriate media to extinguish.  
P405 Store locked up.  
P403+P235 Store in a well-ventilated place. Keep cool.  
Store in a well-ventilated place. Protect from sunlight. Do not expose to temperatures exceeding 50deg.C.  
P501 Dispose of contents/container in accordance with local/regional/national/international regulation.

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## 3 COMPOSITION/INFORMATION ON INGREDIENTS

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Substance or Preparation: Preparation.

Chemical nature: silicone resin hardener

<u>Ingredient Name</u>	<u>CAS No.</u>	<u>Concentration[%]</u>	<u>EC No.</u>
5-methylhexan-2-one; isoamyl methyl ketone	110-12-3	20-25	203-737-8
silica, crystalline, quartz	14808-60-7	10-15	238-878-4
titanium dioxide	13463-67-7	1-5	236-675-5

Notes: this product contained the following substances that present a human hazard in accordance with

EC No. 1272/2008.

ML code is one of manufacturer's own marks to control the quantity of new material for the countries that regulate the new material.

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## 4 FIRST-AID MEASURES

---

Inhalation: If inhaled, remove to fresh air.  
If not breathing, give artificial respiration.  
If breathing is difficult, give oxygen.  
Get medical attention immediately.

Skin contact: In case of contact, immediately wash skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.  
Get medical attention immediately.

Eye contact: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes.  
If easy to do, remove contact lenses, if worn.

Get medical attention immediately.  
Call a physician if irritation develops and persists.  
Ingestion: If swallowed, do NOT induce vomiting unless directed to do so by medical personnel.  
Never give anything by mouth to an unconscious person.  
Get medical attention immediately.

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## 5 FIRE-FIGHTING MEASURES

---

Do NOT use water jet.  
Use water spray or dry chemicals.  
Keep adjacent receptacles cool with copious quantities of water.  
suitable fire-extinguishing media  
[ OK ]water fog,[ OK ]CO2,[ OK ]foam,[ OK ]dry chemicals,[ OK ]dry sand.  
Notes: Fire will produce dense black smoke.  
Decomposition products may be hazardous to health.  
Avoid exposure and use breathing apparatus as appropriate.  
Cool closed containers exposed to fire by spraying them with water.  
Do not allow run off water and contaminants from fire fighting to enter drains or watercourses.  
See section 10.

---

## 6 ACCIDENTAL RELEASE MEASURES

---

Avoid all sources of ignition(e.g.naked lights, unprotected light bulbs,electric handtools).  
Ventilate the area and avoid breathing vapors.  
Wear protective clothing and self-contained breathing apparatus when dealing with spillage or fire.  
Collect spillage, where practicable, for safe disposal.  
Should be disposed of wastes and empty containers in accordance with regulations made under the control of pollution acts and the environmental protection acts.  
Collect spillage, where practicable, using absorbent material, and dispose of spillage on the floor in a safe manner.  
Keep away from drains,surface- and ground-water and soil.  
Do not allow spills to enter drains or water courses.  
Refer to headings 8 and 13.

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## 7 HANDLING AND STORAGE

---

Handling:  
Keep away from heat, sparks, and flame.  
Keep container closed.  
The product may charge electro statically.  
Operators should wear clothing which dose not generate static (at least 60% natural fiber) and antistatic food wear.  
Do not breath (dust, vapor, mist, gas).  
Use only with ventilation.  
Do not get in eyes, on skin, or on clothing.  
Avoid prolonged or repeated contact with skin.  
Wash thoroughly after handling.  
Do not take internally.  
Do not taste or swallow.

Protection as shown in section 8.

**Storage:**

- Keep container closed.
- Avoid prolonged or repeated contact with skin and inhalation.
- Keep away from heat, sparks and flame.
- Store in a well-ventilated, dry place away from sources of heat and direct sunshine.
- Do not store above 40 deg.C. (104 deg.F.).
- Avoid prolonged or repeated contact with skin.
- Keep locked up.
- Do not take internally.
- Do not taste or swallow.

## 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

**Engineering Measures:** Prevent vapor build up by providing adequate ventilation during and after use.  
 An eye wash facility should be readily available.  
 Facilities storing or utilizing this material should be equipped with an eye wash facility and a safety shower.

**Exposure limit:**

Ingredient name	EU TLV(TWA)	ACGIH TLV(TWA)
5-methylhexan-2-one; isoamyl methyl ketone	20 ppm	50 ppm
silica, crystalline, quartz	not est.	0.025 mg/m <sup>3</sup>
titanium dioxide	not est.	10 mg/m <sup>3</sup>

Notes:(RD)=respirable dust. ( c )=ceiling limit. (Skin)=skin penetrative.  
 Mppcf=millions of particles per cubic foot.

**Personal protection:**

- Respiratory protection:** Wear appropriate equipment shown in EU directive 89/656/EC.
- Hand protection:** Wear impervious gloves.
- Eye protection:** Wear chemical splash goggles and face shield when eye and face contact is possible due to splashing or spraying of material.
- Skin protection:** Wear chemical resistant clothing such as gloves, apron, boots or whole bodysuits made from neoprene, as appropriate.

**Environmental exposure control:** Do NOT let this product enter the environment.

## 9 PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Liquid
color:	white
odor:	solvent odor
pH:	no data.
boiling point(range):	144 - 259[deg.C](291 - 498[deg.F])
flash point:	36[deg.C](96.8[deg.F])
ignition temperature:	300[deg.C](572[deg.F])
lower explosive limit:	no data.
higher explosive limit:	no data.
vapor pressure:	1.3[Pa]
specific density:	0.98/20[deg.C](68[deg.F])

vapor density: The vapor and the gas are heavier than air.  
solubility in water: None or poor in water  
percentage volatile: 24.5[%]

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## 10 STABILITY AND REACTIVITY

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Stability: Stable under recommended storage and handling conditions (see section 7).  
When exposed to high temperature, may produce hazardous decomposition products such as carbon monoxide, carbon dioxide, oxides of nitrogen and smoke.

Hazardous reaction: Hazardous reaction will not occur.

Condition to avoid: Avoid heating temperatures above 40 deg.C.

Materials to avoid: Keep away from oxidizing agents, strongly alkaline and strongly acid materials in order to avoid possible exothermic reactions.

Hazardous decomposition products: The products decomposed on heating producing their oxide or monomers.

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## 11 TOXICOLOGICAL INFORMATION

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There are no data available on the product itself.

Toxicological information of ingredients:

acute toxicity:

5-methylhexan-2-one; isoamyl methyl ketone  
LC50(inhalation:vapour, rat)=4662[ppm/1H]  
LD50(oral, rat)=2815[mg/kg]

local effects:

eye irritant  
5-methylhexan-2-one; isoamyl methyl ketone  
titanium dioxide

sensitization:

No data.

chronically long term effect:

silica, crystalline, quartz

specific effects

carcinogenic:

titanium dioxide  
Carcinogenic(IARC);Class:2B

silica, crystalline, quartz  
Carcinogenic(IARC);Class:1  
Carcinogenic(NTP);Known to be human carcinogen  
Carcinogenic(NTP);Reasonably anticipated to be human carcinogen  
Carcinogenic(CLP)

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## 12 ECOLOGICAL INFORMATION

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For spills or waste, take care to avoid contaminating environment.

Prevent spills and wastewater from entering sewers, water courses or law areas to avoid pollution.

There are no data available on the product itself.

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## 13 DISPOSAL CONSIDERATIONS

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The product should not be allowed to inter drains and watercourses.

All notification, clean-up and disposal should be carried out in accordance with European Union, governmental and local regulations

Preferred method of waste disposal are incineration or biological treatment in federal/state approved facility

Wastes and empty containers should be disposed of in accordance with regulations made under the control of pollution acts and the environmental protection acts

Empty containers should be recycled or disposed of through an approved waste management facility.

It is strongly advised not to let the chemical enter into the environment.

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## 14 TRANSPORT INFORMATION

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UN regulation

UN Shipping name: PAINT(including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning or reducing compound)

UN identification number: 1263

UN Class: class 3 Flammable liquids.

UN Packaging group: III

IMDG Class: class 3.3 High flashpoint group.

storage temperature Store below 40 deg.C.(104deg.F.).

See section 7, Handling and storage.

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## 15 REGULATORY INFORMATION

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The information on the SDS is based on the present state of our knowledge and on current EU laws.

Please refer to any other national measures that may be relevant.

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## 16 OTHER INFORMATION

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R20:Harmful by inhalation

R36:Irritating to eyes

R39/24:Toxic-danger of very serious irreversible effects in contact with skin.

R39/24/25:Toxic-danger of very serious irreversible effects in contact with skin and if swallowed.

R45:May cause cancer

R49:May cause cancer by inhalation

S16:Keep away from sources of ignition -- No smoking

S23:Do not breath gas/fumes/vapor/spray (appropriate wording to be specified by the manufacturer).

S26:In case of contact with eyes, rinse immediately with plenty of water and seek medical.

S28:After contact with skin, wash immediately with plenty of WATER and SOAP.

S33:Take precautionary measures against static

S36/37/39:Wear suitable protective clothing and gloves and eye/face protection.

S45:In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S53:Avoid exposure-obtain special instruction

This information contained in this data sheet represents the best information currently available to us.

However, no warranty is made with respect to its completeness and we assume no liability resulting us from its.

It is advised to make their own tests to determinate the safety and suitability of each such product or combination for their own.

Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

The product should not be used for purposes other than shown in the safety data sheet without first obtaining written advice.

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# Safety Data Sheet

## 1 PRODUCT AND COMPANY IDENTIFICATION

Product name: ECOLOSILK TIE COAT LIGHT GRAY BASE  
 Intended use: paint  
 Manufacture:  
 Company name: NIPPON PAINT MARINE COATINGS CO., LTD.  
 Address: 2-1-2 Oyodo-kita, Kita-ku, Osaka, 531-8511 Japan  
 Telephone No.: +81-6-6455-9590  
 Facsimile No.: +81-6-6450-4085  
 24 hours Emergency telephone No.: +81-6-6455-9590

## 2 HAZARDS IDENTIFICATION

CLASSIFICATION CODE Flammable liquids:Category3  
 Acute toxicity - inhalation: vapour:Category4  
 Serious eye damage/eye irritation:Category2  
 Carcinogenicity:Category2  
 Toxic to Reproduction:Category1B  
 Specific target organ toxicity - single exposure:Category3  
 Specific target organ toxicity - repeated exposure:Category2

Symbol



Hazard statement Danger  
 H226 Flammable liquid and vapour  
 H319 Causes serious eye irritation  
 H332 Harmful if inhaled  
 H335 May cause respiratory irritatio  
 H336 May cause drowsiness or dizziness  
 H351 Suspected of causing cancer  
 H360 May damage fertility or the unborn child  
 H373 May causes damage to organs through prolonged or repeated exposure

Comment P201 Obtain special instructions before use.  
 P202 Do not handle until all safety precautions have been read and understood.  
 P210 Keep away form heat/sparks/open flames/hot surfaces. - No smoking.  
 P233 Keep container tightly closed.  
 P240 Ground/bond container and receiving equipment.  
 P241 Use explosion-proof electrical/ventilating/lighting equipment.  
 P242 Use only non-sparking tools.

P243 Take precautionary measures against static discharge.  
P260 Do not breathe dust/fume/gas/mist/vapours/spray.  
P264 Wash hands, mouth etc. thoroughly after handling.  
P271 Use only outdoors or in a well-ventilated area.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P314 Get medical advice/attention if you feel unwell.  
P330 Rinse mouth.  
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
P304+P312 IF INHALED: Call a POISON CENTER/doctor, if you feel unwell.  
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P308+P313 IF exposed or concerned: Get medical advice/attention.  
P337+P313 If eye irritation persists: Get medical advice/attention.  
P370+P378 In case of fire: Use appropriate media to extinguish.  
P405 Store locked up.  
P403+P233 Store in a well-ventilated place. Keep container tightly closed.  
P403+P235 Store in a well-ventilated place. Keep cool.  
Store in a well-ventilated place. Protect from sunlight. Do not expose to temperatures exceeding 50deg.C.  
P501 Dispose of contents/container in accordance with local/regional/national/international regulation.

---

## 3 COMPOSITION/INFORMATION ON INGREDIENTS

---

Substance or Preparation: Preparation.

Chemical nature: silicone resin paint

<u>Ingredient Name</u>	<u>CAS No.</u>	<u>Concentration[%]</u>	<u>EC No.</u>
5-methylhexan-2-one; isoamyl methyl ketone	110-12-3	20-25	203-737-8
titanium dioxide	13463-67-7	10-15	236-675-5
xylene	1330-20-7	0.1-1	215-535-7
ethylbenzene	100-41-4	0.1-1	202-849-4

Notes: this product contained the following substances that present a human hazard in accordance with

EC No. 1272/2008.

ML code is one of manufacturer's own marks to control the quantity of new material for the countries that regulate the new material.

---

## 4 FIRST-AID MEASURES

---

Inhalation: If inhaled, remove to fresh air.  
If not breathing, give artificial respiration.  
If breathing is difficult, give oxygen.  
Get medical attention immediately.

Skin contact: In case of contact, immediately wash skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.  
Get medical attention immediately.

- Eye contact: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes.  
If easy to do, remove contact lenses, if worn.  
Get medical attention immediately.  
Call a physician if irritation develops and persists.
- Ingestion: If swallowed, do NOT induce vomiting unless directed to do so by medical personnel.  
Get medical attention immediately.

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## 5 FIRE-FIGHTING MEASURES

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- Do NOT use water jet.  
Use water spray or dry chemicals.  
Keep adjacent receptacles cool with copious quantities of water.
- suitable fire-extinguishing media  
[ OK ]water fog,[ OK ]CO<sub>2</sub>,[ OK ]foam,[ OK ]dry chemicals,[ OK ]dry sand.
- Notes: Fire will produce dense black smoke.  
Decomposition products may be hazardous to health.  
Avoid exposure and use breathing apparatus as appropriate.  
Cool closed containers exposed to fire by spraying them with water.  
Do not allow run off water and contaminants from fire fighting to enter drains or watercourses.  
See section 10.

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## 6 ACCIDENTAL RELEASE MEASURES

---

- Avoid all sources of ignition(e.g.naked lights, unprotected light bulbs,electric handtools).  
Ventilate the area and avoid breathing vapors.  
Wear protective clothing and self-contained breathing apparatus when dealing with spillage or fire.  
Collect spillage, where practicable, for safe disposal.  
Should be disposed of wastes and empty containers in accordance with regulations made under the control of pollution acts and the environmental protection acts.  
Collect spillage, where practicable, using absorbent material, and dispose of spillage on the floor in a safe manner.  
Keep away from drains,surface- and ground-water and soil.  
Do not allow spills to enter drains or water courses.  
Refer to headings 8 and 13.

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## 7 HANDLING AND STORAGE

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- Handling:  
Keep away from heat, sparks, and flame.  
Keep container closed.  
The product may charge electro statically.  
Operators should wear clothing which dose not generate static (at least 60% natural fiber) and antistatic food wear.  
Do not breath (dust, vapor, mist, gas).  
Use only with ventilation.  
Do not get in eyes, on skin, or on clothing.  
Avoid prolonged or repeated contact with skin.  
Wash thoroughly after handling.  
Protection as shown in section 8.

**Storage:**

- Keep container closed.
- Avoid prolonged or repeated contact with skin and inhalation.
- Keep away from heat, sparks and flame.
- Store in a well-ventilated, dry place away from sources of heat and direct sunshine.
- Do not store above 40 deg.C. (104 deg.F.).
- Avoid prolonged or repeated contact with skin.

## 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

**Engineering Measures:** Prevent vapor build up by providing adequate ventilation during and after use.  
 An eye wash facility should be readily available.  
 Facilities storing or utilizing this material should be equipped with an eye wash facility and a safety shower.

**Exposure limit:**

<u>Ingredient name</u>	<u>EU TLV(TWA)</u>	<u>ACGIH TLV(TWA)</u>
5-methylhexan-2-one; isoamyl methyl ketone	20 ppm	50 ppm
titanium dioxide	not est.	10 mg/m3
xylene	50 ppm	100 ppm
ethylbenzene	100 ppm	100 ppm

Notes:(RD)=respirable dust. ( c )=ceiling limit. (Skin)=skin penetrative.  
 Mppcf=millions of particles per cubic foot.

**Personal protection:**

- Respiratory protection:** Wear appropriate equipment shown in EU directive 89/656/EC.
- Hand protection:** Wear impervious gloves.
- Eye protection:** Wear chemical splash goggles and face shield when eye and face contact is possible due to splashing or spraying of material.
- Skin protection:** Wear chemical resistant clothing such as gloves, apron, boots or whole bodysuits made from neoprene, as appropriate.

**Environmental exposure control:** Do NOT let this product enter the environment.

## 9 PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Liquid
color:	gray
odor:	solvent odor
pH:	no data.
boiling point(range):	144[deg.C](291[deg.F])
flash point:	36[deg.C](96.8[deg.F])
ignition temperature:	400[deg.C](752[deg.F])
lower explosive limit:	no data.
higher explosive limit:	no data.
vapor pressure:	0.01[Pa]
specific density:	1.56/20[deg.C](68[deg.F])
vapor density:	The vapor and the gas are heavier than air.
solubility in water:	None or poor in water
percentage volatile:	22.6[%]

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## 10 STABILITY AND REACTIVITY

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Stability:	Stable under recommended storage and handling conditions (see section 7). When exposed to high temperature, may produce hazardous decomposition products such as carbon monoxide, carbon dioxide, oxides of nitrogen and smoke.
Hazardous reaction:	Hazardous reaction will not occur.
Condition to avoid:	Avoid heating temperatures above 40 deg.C.
Materials to avoid:	Keep away from oxidizing agents, strongly alkaline and strongly acid materials in order to avoid possible exothermic reactions.
Hazardous decomposition products:	The products decomposed on heating producing their oxide or monomers.

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## 11 TOXICOLOGICAL INFORMATION

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There are no data available on the product itself.

Toxicological information of ingredients:

acute toxicity:

ethylbenzene

LC50(inhalation:vapour, rat)=4000[ppm/1H]

LD50(oral, rat)=3500[mg/kg]

5-methylhexan-2-one; isoamyl methyl ketone

LC50(inhalation:vapour, rat)=4662[ppm/1H]

LD50(oral, rat)=2815[mg/kg]

xylene

LC50(inhalation:vapour, rat)=6700[ppm/1H]

LD50(oral, rat)=3500[mg/kg]

local effects:

eye irritant

ethylbenzene

5-methylhexan-2-one; isoamyl methyl ketone

xylene

titanium dioxide

skin irritant

ethylbenzene

xylene

sensitization:

No data.

chronically long term effect:

No data.

specific effects

carcinogenic:

ethylbenzene

Carcinogenic(IARC);Class:2B

Carcinogenic(CLP)

titanium dioxide

Carcinogenic(IARC);Class:2B

toxic for reproduction

ethylbenzene

Toxic for reproduction(CLP)

xylene

Toxic for reproduction(CLP)

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## 12 ECOLOGICAL INFORMATION

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For spills or waste, take care to avoid contaminating environment.

Prevent spills and wastewater from entering sewers, water courses or law areas to avoid pollution.

There are no data available on the product itself.

Ecological information of ingredients

persistence ethylbenzene biodegradable:81-100%(2week/)

Data are based on "Biological and Bioaccumulation Data of Existing Chemicals Based on the SCSL Japan" Complied under the supervision of METI(MITI) Japan.

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## 13 DISPOSAL CONSIDERATIONS

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The product should not be allowed to inter drains and watercourses.

All notification, clean-up and disposal should be carried out in accordance with European Union, governmental and local regulations

Preferred method of waste disposal are incineration or biological treatment in federal/state approved facility

Wastes and empty containers should be disposed of in accordance with regulations made under the control of pollution acts and the environmental protection acts

Empty containers should be recycled or disposed of through an approved waste management facility.

It is strongly advised not to let the chemical enter into the environment.

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## 14 TRANSPORT INFORMATION

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UN regulation

UN Shipping name: PAINT(including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning or reducing compound)

UN identification number: 1263

UN Class: class 3 Flammable liquids.

UN Packaging group: III

IMDG Class: class 3.3 High flashpoint group.

storage temperature Store below 40 deg.C.(104deg.F.).

See section 7,Handling and storage.

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## 15 REGULATORY INFORMATION

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The information on the SDS is based on the present state of our knowledge and on current EU laws.

Please refer to any other national measures that may be relevant.

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## 16 OTHER INFORMATION

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R20:Harmful by inhalation

R21:Harmful in contact with skin

R22:Harmful if swallowed

R33: Danger of cumulative effects



R36/37:Irritating to eyes and respiratory system

R40:Possible risk of irreversible effects

R60:May impair fertility

R61:May cause harm to the unborn child

S16:Keep away from sources of ignition -- No smoking

S23:Do not breath gas/fumes/vapor/spray (appropriate wording to be specified by the manufacturer).

S24:Avoid contact with skin

S26:In case of contact with eyes, rinse immediately with plenty of water and seek medical.

S33:Take precautionary measures against static

S36/37/39:Wear suitable protective clothing and gloves and eye/face protection.

S42:During fumigation/spraying wear suitable respiratory equipment.

S53:Avoid exposure-obtain special instruction

This information contained in this data sheet represents the best information currently available to us.

However, no warranty is made with respect to its completeness and we assume no liability resulting us from its.

It is advised to make their own tests to determinate the safety and suitability of each such product or combination for their own.

Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

The product should not be used for purposes other than shown in the safety data sheet without first obtaining written advice.

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