

TSE3664(B)-10P

SAFETY DATA SHEET

1 Product and company identification

Name of chemical (Product name): TSE3664(B)-10P
Manufacturer: Momentive Performance Materials Japan LLC
 Akasaka Park Building
 5-2-20 Akasaka, Minato-ku
 Tokyo Japan

Distributor Information: DC Products Pty Limited
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 Australia

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2 Hazard(s) identification

GHS classification:

Physical Hazards	Flammable liquids	Category 4
Health Hazards	Skin Corrosion/Irritation	Category 1
	Serious Eye Damage/Eye Irritation	Category 1
	Skin sensitizer	Category 1
	Toxic to reproduction	Category 1B
	Toxic to reproduction	Category 1B
	Specific Target Organ Toxicity - Single Exposure	Category 2
	Specific Target Organ Toxicity - Repeated Exposure	Category 2
Environmental Hazards	Chronic hazards to the aquatic environment	Category 3

GHS label elements

Symbol(s):



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Signal Word:	Danger
Hazard Statement(s):	Combustible liquid. Causes severe skin burns and eye damage. May cause an allergic skin reaction. May damage fertility or the unborn child. May cause damage to organs. May cause damage to organs through prolonged or repeated exposure. Harmful to aquatic life with long lasting effects.
Precautionary Statements	
Prevention:	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Wear protective gloves. Wear eye protection/face protection. Wear protective clothing. Keep away from open flames/hot surfaces. - No smoking. Avoid release to the environment. Do not breathe vapors. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace.
Response :	Get medical advice/attention if you feel unwell. IF exposed or if you feel unwell: Call a POISON CENTER/doctor. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor. IF SWALLOWED: Immediately call a POISON CENTER/doctor. Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. IF ON SKIN: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice/attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Storage:	Store locked up. Store in a well-ventilated place. Keep cool.
Disposal:	Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.
Other hazards which do not result in GHS classification:	None.

Main symptoms and emergency overview

Main symptoms: No data available.

Emergency Overview: No data available.

3 Composition/information on ingredients

Chemical nature: Catalyst

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Mixtures

Chemical Identity	CAS number	Concentration*
gamma-Aminopropyltriethoxy silane	919-30-2	10 - 20%
Tetraethyl Silicate, Tetraethoxy silane	78-10-4	1 - 10%
3-glycidyl-oxypropyl-trimethoxy-silane	2530-83-8	1.0 - 10%
Aminoethyl aminopropyl trimethoxy silane	1760-24-3	1.0 - 10%
Dibutyltin Dilaurate (19% as Tin)	77-58-7	0.1 - 1.0%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4 First-aid measures

Inhalation: "If inhaled, move victim to fresh air and seek medical attention."
Eye contact: Flush thoroughly with water for at least 15 minutes. Get medical assistance.
Skin Contact: Wash the skin immediately with soap and water. Get medical attention promptly if symptoms occur after washing.
Ingestion: If swallowed, do NOT induce vomiting. Give a glass of water. Do not give victim anything to drink if he is unconscious. Get medical attention if any discomfort continues.

Most important symptoms/effects, acute and delayed

Symptoms: No data available.
Hazards: No data available.

5 Fire-fighting measures

Extinguishing media: Extinguish with foam, carbon dioxide or dry powder.
Unsuitable extinguishing media: No data available.

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6 Accidental release measures

Personal precautions, protective equipment and emergency procedures: Keep unprotected persons away. Remove sources of ignition. Use personal protective equipment. Keep upwind.

Environmental Precautions: Avoid discharge into drains, water courses or onto the ground.
Methods or materials for containment and cleaning up: Put in an empty container for recovery after preventing spill by sand or sandbags, if the amount of spill is large. Put in an empty container for recovery after wiping or soaking up in an inert material, if the amount of spill is small.

Prevention of secondary hazards: No data available.

7 Handling and storage

Handling

Technical measures (e.g. Local and general ventilation): Provide adequate general and local exhaust ventilation. Eyewash bottle with clean water.

Safe handling advice: "Wear eye, hand and respiratory protection when in handling." Keep away from sources of ignition - No smoking. Ground container and transfer equipment to eliminate static electric sparks. Protect from moisture.

Contact avoidance measures: No data available.

Hygiene measures: No data available.

Storage

Safe storage conditions: Store in a dark, cool place indoors, with container tightly closed.

Safe packaging materials: No data available.

8 Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits:

Chemical name	type	Exposure Limit Values	Regulation Sources
Tetraethyl Silicate, Tetraethoxysilane	TWA	10 ppm 85 mg/m ³	Japan. OELs - JSOH. (Japan Society of Occupational Health: Advisory Opinion on Permissible [Exposure] Limits) (05 2014)

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Personal protective equipment (ppe)

Respiratory Protection:	Gas mask with organic vapor canister and dust and mist filter.
Eye Protection:	Safety glasses with side shields
Hand Protection:	No data available.
Skin and Body Protection:	Chemical resistant clothing Wear rubber boots.

9 Physical and chemical properties

Appearance

Physical state:	liquid
Form:	liquid
Color:	Blue
Odor:	amine like
Odor threshold:	No data available.
pH:	No data available.
Melting point/freezing point:	Not applied
Initial boiling point and boiling range :	Not applied
Flash Point:	64 °C
Evaporation rate:	No data available.
Flammability (solid, gas):	No data available.
Upper/lower limit on flammability or explosive limits	
Flammability limit - upper (%):	No data available.
Flammability limit - lower (%):	No data available.
Explosive limit - upper (%):	No data available.
Explosive limit - lower (%):	No data available.
Vapor pressure :	No data available.
Density:	ca. 1.02 g/cm ³ (20 °C)
Vapor density:	No data available.
Relative density:	No data available.
Solubility(ies)	
Solubility in water:	Insoluble
Solubility (other):	partly soluble
Partition coefficient (n-octanol/water) Log Pow:	No data available.
Auto-ignition temperature:	> 300 °C
Decomposition temperature:	No data available.
SADT:	No data available.
Viscosity, dynamic:	10 mPa·s (23 °C)
Viscosity, kinematic:	No data available.

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10 Stability and reactivity

Reactivity:	No data available.
Chemical Stability:	No data available.
Possibility of hazardous reactions:	No data available.
Conditions to avoid:	Keep away from heat, sparks and open flame.
Incompatible Materials:	Avoid contact with: Water, moisture. Strong oxides. Strong bases. Reacts with water or moisture to form: Methanol Ethanol.
Hazardous Decomposition Products:	This product contains methylpolysiloxanes which can generate formaldehyde at approximately 300 degrees Fahrenheit (150°C) and above, in atmospheres which contain oxygen. Formaldehyde is a skin and respiratory sensitizer, eye and throat irritant, acute toxicant, and potential cancer hazard. A MSDS for formaldehyde is available from Momentive.

11 Toxicological information

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral

Product:	No data available.
Specified substance(s):	
3-glycidyl-oxypropyl-trimethoxy-silane	LD 50 (Rat: 8,025 mg/kg (OECD-Guideline 401 (Acute Oral Toxicity)))
Aminoethyl aminopropyl trimethoxy silane	LD 50 (Rat: 2,995 mg/kg (OPPTS 870.1100))
Dibutyltin Dilaurate (19% as Tin)	LD 50 (Rat, male and female): 2,071 mg/kg (OECD-Guideline 401 (Acute Oral Toxicity)) Not classified Slightly toxic

Dermal

Product:	No data available.
Specified substance(s):	
3-glycidyl-oxypropyl-trimethoxy-silane	LD 50 (Rabbit: 4,250 mg/kg (OECD-Guideline 402 (Acute Dermal Toxicity))) Not classified
Aminoethyl aminopropyl trimethoxy silane	LD 50 (Rabbit: > 2,000 mg/kg)

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Dibutyltin Dilaurate (19% as Tin) LD 50 (Rat: >> 2,000 mg/kg (OECD-Guideline 402 (Acute Dermal Toxicity))
Semi-occlusive

Inhalation

Product: No data available.

Specified substance(s): 3-glycidyl-oxypropyl-trimethoxy-silane LC50 (Rat, 4 h): > 5,300 mg/l (OECD Test Guideline 403) Aerosols

Specified substance(s): Dibutyltin Dilaurate (19% as Tin) LC50 (Rat, No data available., 2.00 h): ca. 10 mg/l (No data available.)

Repeated dose toxicity

Product: No data available.

Specified substance(s): gamma-Aminopropyltriethoxysilane NOAEL (Rat, Oral, 90 d): 200 mg/kg

Specified substance(s): Aminoethyl aminopropyl trimethoxy silane NOAEL (Rat, Oral, 28 d): >= 500 mg/kg

Skin Corrosion/Irritation

Product: No data available.

Serious Eye Damage/Eye Irritation

Product: No data available.

Respiratory or Skin Sensitization

Product: No data available.

Carcinogenicity

Product: No data available.

Japan Society for Occupational Health: Carcinogen :

No carcinogenic components identified

Japan. ISHL Designated Carcinogen:

No carcinogenic components identified

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

No carcinogenic components identified

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Germ Cell Mutagenicity

In vitro

Product: No data available.

Specified substance(s):
gamma-
Aminopropyltriethoxysilane
Specified substance(s):
3-glycidyl-oxypropyl-
trimethoxy-silane

Ames-Test: negative
Chinese Hamster Ovary (CHO): negative

Salmonella Typhimurium/ Escherichia coli (OECD-Guideline 471 (Genetic Toxicology: Salmonella typhimurium, Reverse Mutation Assay)): positive

In vivo

Product: No data available.

Specified substance(s):
gamma-
Aminopropyltriethoxysilane
Specified substance(s):
3-glycidyl-oxypropyl-
trimethoxy-silane

Micronucleus test (mouse): negative

Micronucleus test (mouse) (other methods) Intraperitoneal: negative
Micronucleus test (mouse) (OECD-Guideline 474 (Genetic Toxicology: Micronucleus Test)) Intraperitoneal: positive

Reproductive toxicity

Product: No data available.

Specific Target Organ Toxicity - Single Exposure

Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure

Product: No data available.

Aspiration Hazard

Product: No data available.

Other effects: No data available.

12 Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment

Fish

Product: No data available.

Specified substance(s):

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gamma-Aminopropyltriethoxysilane	LC50 (Brachydanio rerio, 96 h): > 934 mg/l
Tetraethyl Silicate, Tetraethoxysilane	LC100 (No data available., 24 h): 9,000 mg/l LC50 (Brachydanio rerio, 96 h): > 245 mg/l
Aminoethyl aminopropyl trimethoxy silane	LC50 (Lepomis macrochirus): > 100 mg/l

Aquatic Invertebrates

Product:	No data available.
Specified substance(s):	
gamma-Aminopropyltriethoxysilane	EC50 (Daphnia magna, 48 h): 331 mg/l
Tetraethyl Silicate, Tetraethoxysilane	EC50 (Blue Crab): 7,800 mg/l
Aminoethyl aminopropyl trimethoxy silane	EC50 (Daphnia magna, 48 h): 87.4 mg/l
Dibutyltin Dilaurate (19% as Tin)	EC50 (Daphnia magna, 48 h): < 0.463 mg/l Fresh water

Chronic hazards to the aquatic environment

Fish

Product:	No data available.
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Aquatic Invertebrates

Product:	No data available.
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Toxicity to Aquatic Plants

Product:	No data available.
Specified substance(s):	
gamma-Aminopropyltriethoxysilane	EC50 (Desmodesmus subspicatus (green algae), 72 h): > 1,000 mg/l NOEC (Desmodesmus subspicatus (green algae), 72 h): 1.3 mg/l
Aminoethyl aminopropyl trimethoxy silane	EC50 (Algae (Pseudokirchneriella subcapitata), 96 h): 8.8 mg/l NOEC (Algae (Pseudokirchneriella subcapitata)): 3.1 mg/l

Persistence and Degradability

Biodegradation

Product:	No data available.
Specified substance(s):	
gamma-Aminopropyltriethoxysilane	67 % (28 d) Not readily degradable. hydrolyses

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Tetraethyl Silicate, Tetraethoxysilane	98 % (28 d, OECD-Guideline 301 A (DOC Die-Away Test))	Readily biodegradable
Dibutyltin Dilaurate (19% as Tin)	23 % (39 d)	The product is not readily biodegradable.

BOD/COD Ratio

Product: No data available.

Bioaccumulative Potential

Bioconcentration Factor (BCF)

Product: No data available.

Partition Coefficient n-octanol / water (log Kow)

Product: No data available.

Mobility

Mobility in Soil: No data available.

Known or predicted distribution to environmental compartments

gamma-Aminopropyltriethoxysilane	No data available.
Tetraethyl Silicate, Tetraethoxysilane	No data available.
3-glycidyl-oxypropyl-trimethoxy-silane	No data available.
Aminoethyl aminopropyl trimethoxy silane	No data available.
Dibutyltin Dilaurate (19% as Tin)	No data available.

Hazardous to the ozone layer: No data available.

Other Adverse Effects: No data available.

13 Disposal considerations

General information: none

Disposal methods: This product falls under Industrial Waste based on Wastes Disposal and Public Cleansing Law. Dispose of in accordance with this law and local regulations.
 This product falls under Special Industrial Waste (Waste Oil) based on Wastes Disposal and Public Cleansing Law. Dispose of in accordance with this law and local regulations.

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Contaminated Packaging: No data available.

14 Transport information

International regulations

IMDG - International Maritime Dangerous Goods Code

Not regulated.

IATA

Not regulated.

National Regulations

Domestic Standard: In compliance with domestic law.

15 Regulatory information

Law concerning Pollutant Release and Transfer Register

PRTR and Promotion of Chemical Management Law, new regulated substances (Cabinet Order No. 356, 2008):

Specified Class 1 substance(s): not applicable

Class 1 Substance(s): not applicable

Class 2 Substance(s): not applicable

Industrial Safety and Health Act:

Article 57-2 Regulated Substance(s): Tetraethyl Silicate, Tin and its compounds,

Article 57 Regulated Substance(s) subject to labeling: Tetraethyl Silicate,

ISHL Organic Solvents

ISHL Designated or Specified Chemical Substances

Poisonous and Deleterious Substances Control Act:

Specified poisonous substance(s):

Main law: not applicable

Cabinet order: not applicable

Poisonous Substance(s): Main

law: not applicable **Cabinet**

order: not applicable

Deleterious Substance(s):

Main law: not applicable

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Cabinet order: not applicable

High Pressure Gas Safety Law

not applicable

Fire Service Law:

Class 4, Group 2 oils Non-water soluble No fire

Japan CSCL: Priority Assessment Chemical Substances: not applicable

Act on Prevention of Marine Pollution and Maritime Disaster: not applicable

Inventory Status

Australia AICS:	y (positive listing)	Remarks: None.
EU EINECS List:	y (positive listing)	Remarks: None.
Japan (ENCS) List:	y (positive listing)	Remarks: None.
China Inventory of Existing Chemical Substances:	y (positive listing)	Remarks: None.
Korea Existing Chemicals Inv. (KECI):	n (Negative listing)	Remarks: None.
Canada DSL Inventory List:	q (quantity restricted)	Remarks: None.
Canada NDSL Inventory:	n (Negative listing)	Remarks: None.
Philippines PICCS:	y (positive listing)	Remarks: None.
US TSCA Inventory:	y (positive listing)	Remarks: On TSCA Inventory
Taiwan. Taiwan inventory (CSNN):	y (positive listing)	Remarks: None.

16 Other Information

Revision Information:

Issue Date: 10/24/2016

SDS No.:

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Disclaimer:

Notice to reader

This material is developed and manufactured for industrial applications only. For medical or other special applications, use after performing safety testing on the product and confirming safety. Never use for human applications such as implant, impregnation, or where a residue may possibly remain in the body.

Further Information

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safehandling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Literature Reference : No data available.