MATERIAL SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

Product name	: SEATENDER 12T	Product No. TH 5957
Manufacutrer / Supplier	: TOA-Chugoku Paints Co.,Ltd	
	110 Moo 5 Wellgrow I.E. Bangna-Trad Rd. Km.36,	
	Bangsamak, Bangpokong Chachoengsao, 24180	
	Telephone no. 66 02 2602701-8 , 66 038 570498-9	
	Fax : 66 02 2602700 , 66 038 570500	
In case of emergency	: Telephone no. 66 02 2602701-8 , 66 038 570501	
Material intended use	: Coating: Solvent-born (Refer to technical data sheet)	

2. HARZARDS IDENTIFICATION

The product is classifiedas dangerous according to Directive 1994/45/EC and its amendments.
Flammable
Toxic by inhalation. Harmful in contact with skin and if swallowed.
Harmful:danger of serious damage to health in case of prolonged exposure through inhalation and if swallowed. Irritating to skin.
May cause of sensitisation by skin contact. Very toxic to aquatic organisms, may cause of long time adverse effect in the aquatic environment.


Toxic


Dangerous for the environment

3. COMPOSITION / INFORMATION ON INGREDIENTS

This product contains the following hazardous ingredients

Ingredient name	CAS No.	EINECS No.	% by weight	Classification
Dicopper oxide	1317-39-1	215-270-7	38 - 42	Xn; R22 N; R50/53
Zinc oxide	1314-13-2	215-222-5	8 - 12	N; R50/53
4,5 dichrolo-2-octyl-2H-isothiazol-3-one	64359-81-5	264-843-8	3 - 5	N; R22, R23, R34, R43, R50/53
Xylene	1330-20-7	215-535-7	20 - 25	R10 Xn; R20/21 Xi; R38
4-methylpentan-2-one	108-10-1	203-550-1	3 - 5	F; R11 Xn; R20 Xi; R36/37 R66

4. FIRST-AID MEASURES

First-aid measures

General : In all cases of doubt, or when symtoms persist, seek medical attention. Never give anything by mouth to an unconscious person.

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with running clean fresh water for at least 15 minutes, keeping the eyelids open and seek medical attention.

Skin contact : Remove contaminated clothing and shoes. Wash skin throughly with soap and water or use recognised skin cleanser. Do not use solvents or thinners.

Inhalation	:	Remove to fresh air. Keep patient warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occures, provide artificial respiration or oxygen by trained personnel. Give nothing by mouth. If unconscious, place in recovery position and seek medical advice.
Ingestion	:	If accidentally swallow obtain immediate medical attention and show the container or label. Keep patient warm and at rest. Do not induce vomitting.

5. FIRE FIGHTING MEASURES

Extinguishing media	:	Recommended : alcohol-resistant foam, CO2, powders, water spray. Do not use - water jet.
Recommendation	:	Fire will produce dense black smoke. Exposure to decomposition products may cause a health hazard. Appropriate breathing apparatus may be required. Cool closed containers exposed to fire with water. Do not release runoff from fire to sewers or waterways.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	:	Remove sauces of ignition and ventilation the area, avoid breathing vapour or mist. Do not turn lights or unprotected electricalequipment on or off.
Spill	:	Contain and absorb spillage with non-combustible material e.g. sand, earth, vermiculite. Place in closed container outside building and disposal according to local regulation. Preferably clean with a detergent. Do not use solvents. Do not allow spills to enter drains or watercauses. If drain, lakes, river, or sewers are contimated , inform the appropriateauthorities in accordance with local regulations.

Note : see section 9 for personal protective equipment and section 13 for waste disposal.

7. HANDLING AND STORAGE

Handling	:	This coating contains solvents. Solvent vapours are heavier than air and may spread along floors. vapours may form explosive mixtures with air. Areas of storage, preparation and application should be ventilated to prevent the creation of flammable or explosive concentrations of vapour in air and avoid vapour concentrations higher than the occupational exposure limits.
In storage	:	Handle containers carefully to prevent damage and spillage. Naked flames and smoking should not be permitted in storage areas. It is recommended that fork lift trucks and electrical equipment are protected to the appropriate standard.
In use	:	Avoid skin and eye contact. Avoid inhalation of vapours and spray mists. Observe label precaution. Put on appropriate personal protective equipment. Smoking, eating and drinking should be prohibited in areas where this material is handled. Never use pressure to empty. Container is not a pressure vessel. Always keep in containers made from the same material as the original one. The product may charge electrostatically. Always use earthing leads when pouring solvents and transferring product. Operators should wear clothing which does not generate static and antistatic footwear; floor should be conductive type. When operators, whether spraying or not, have to work inside the spray booth, ventilation is unlikely to be sufficient to control particulates and solvent vapour in all case. In such circumstances they should wear a compressed air-fed respirator during the spraying process and until such time as the particulates and solvent vapour concentration has fallen below the exposure limits.

Storage	;	Store in accordance with local regulation. Observe label precautions. Store in a cool, well ventilated area away from incompatible materials and sauce of heat and direct sunlight. Keep away from ; oxidising agent, strong alkalis, strong acids. Store on concrete or other impervious floor, preferably with bunding to contain any spillage. Do not stack more than 3 pallets high. Keep container tightly closed. Container that have been opened must be carefully resealed and kept upright to prevent leakage. Prevent unauthorised access. This is highly flammable liquid. Refer to the requirements of local regulations for the storage and handling regulations petaining to this material.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

Engineering measures : Provide adequate ventilation. Where resonably practicable, this should be achived by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and solvent vapours below the occupational exposure limits (OEL) suitable respirator must be worn.

Material	Short term (15 min. average)		Long term (8 hours time weighted average , TWA)	
	ppm	mg/m^3	ppm	mg/m^3
Xylene (1330-20-7)	100	441	50	220
4-methylpentan-2-one	-	416	-	208
4,5 dichrolo-2-octyl-2H-isothiazol-3-one	-	442	-	221

Personal protection equipment

Respiratory Protection : Use a properly fitted, air-purifying or air-respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

When concentrations exceed the exposure limits shown above, worker must wear appropriate respirators. Provision of other control such as exhaust ventilation should be considered if practical.

Eye Protection : Wear safety eyeware, e.g. safety spectacles, goggle or visors to protect against the splash of liquids. Eyeware should comply with an approved standard.

Wear a full face shield if mixing or pouring operations pose a risk of splashes.

An eyewash station is suggested as a good work place practice.

Hands Protection : Gloves of an appropriate material should worn during mixing and application.
For prolonged or repeated handling, use the following type of gloves: gloves; nitrile.

Barrier creams may help to protect the exposed areas of the skin but should not be applied once exposure has occurred.

For right choice of glove materials, with focus on chemical resistance and time of penetration, seek advice by the supplier of chemical resistant gloves.

Skin Protection	:	Overalls which cover the body, arms and legs should worn. Skinshould not be exposed. Barrier creams may help to protect areas which are difficult to cover such as face and neck. They should howerve not be applied once ecposure has occurred. Petroleum jelly based types Such as vaseline should not be used. All part of the body should be washed after contact.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state : ( ) Solid (x) Liquid ( ) Paste ( ) Powder	Odour : Odourless Colour : Red Brown	Density : 1.85 g/cm^3 Flash point : 23 °C
Solubility : Insoluble in water	Flammable limits : LEL 1.4 UEL 12.3%	
Vapour pressure : 1940 Pa / 20 °C	Autoignition temperature : 432 °C	

10. STABILITY AND REACTIVITY

Stable under recommended storage and handling conditions (see section 8). When exposed to high teemperatures may produce hazardous decomposition products such as carbon monoxide, carbon dioxide, oxide of nitrogen ans smkoe.

Keep away from oxidising agents, strongly alkaline and strong acid materials in order to avoid possible exothermic reactions.

11. TOXICOLOGICAL INFORMATION

There are no data available on the product itself.

Exposure to solvent vapour concentration from the component solvents in excess of the state occupational exposure limits may result in adverse health effects such as mucous and membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms include headache, nausea, dizziness, fatigue, muscular weakness, downsiness andin extream cases, loss of consciousness.

Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in dryness, irritation and possible non-allergic contact dermatitis. Solvents may also be absorbed through the skin. Splashes of liquid in the eye may cause irritation and soreness with possible reversibledamage.

12. ECOLOGICAL INFORMATION

There is no data available on the preparation itself.
Do not allow to enter drains or watercourses.

The preparation has been assessed following the conventional method of the Dangerous Preparations Directive 1999/45/EC and is not classified as dangerous for the environment.

Aquatic ecotoxicity

Ingredient name	Test	Result	Species	Exposure
dicopper oxide	Mortality	Acute EC50 0.042 mg/L Fresh water	Daphnia-Water flea Daphnia-similis	48 hours
	Mortality	Acute LC50 0.042 mg/L Fresh water	Fish-Zebra danio Danio rerio	96 hours.
	Mortality	Acute LC50 >173 ppb Marine water	Fish-Sheepshead-minnow Cyprinodon variegatus	96 hours.
zinc oxide	Intoxication	Acute EC50 >1000 ppm Fresh water	Daphnia-Water flea-Daphnia-magna	48 hours
	Mortality	Acute LC50 1.1 to 2.5 ppm Fresh water	Fish-Rainbow trout,donaldson-trout-Oncorhynchus mykiss	

4,5 dichrolo-2-octyl-2H-isothiazol-3-one	Mortality	Acute EC50 0.032 mg/L Acute EC50 0.052 mg/L Acute LC50 0.014 mg/L	Algae Daphnia Bluegill Sunfish	120 hours 48 hours 96 hours.
xylene	Mortality	Actute LC50 3300 to 4093 u/L Fresh water	Fish-Rainbow trout,donaldson-trout-Oncorhynchus mykiss trout,donaldson-trout-Oncorhynchus mykiss	96 hours.
4-methylpentan-2-one	Mortality	Actute LC50 53700 to 3320000 u/L	Fish-Fathead minnow Pimephales promelas	96 hours

Biodegradability

Ingredient name	Aquatic half-life	Photolysis	Biodegradability
xylene	-	-	Readily

13. DISPOSAL CONSIDERATION

Method of disposal : Do not allow into drain or watercourses. Waste and/or containers must be disposal of as hazardous waste.
of in accordance with regulations made under the Control of Pollution Act and the Environmental Protection Act.

Using information provided in this data sheet advice should be obtained from the Waste Regulation Authority, whether the special waste regulations apply.

14. TRANSPORT INFORMATION

Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

International transport regulations

Proper shipping name : Copper base presticide, liquid toxic, flammable, xylene , 4,5 dichrolo-2-octyl-2H-isothiazol-3-one
UN number : 3009
Class : 3
Sub-risk : 6.1
Packing group : III
Label :

Additional information

ADR/RID : Hazard identification number: 63
IMDG : Emergency schedules (EmS) : F-E, S-D
Marine pollutant : PP
Marine pollutant substance : zinc oxide , 4,5 dichrolo-2-octyl-2H-isothiazol-3-one

Transport in accordance with ADR/RID, IMDG/IMO and ICAO/IATA and national regulation.

15. REGULATORY INFORMATION

EU regulations : The product is classified and labelled for supply in accordance with the Directive 1999/45/EC as follows:

hazard symbol :

Toxic

Dangerous for the environment

Risk phrases :

R10	Flammable
R11	Highly flammable.
R20/21	Harmful by inhalation and in contact with skin
R22	Harmful if swallowed.
R23	Toxicity inhalation.
R34	Cause burns
R36/37	Irritating to eyes and respiratory system.
R38	Irritaing to skin.
R43	May cause sensitisation by skin contact.
R45	May cause cancer
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R66	Repeated exposure may cause skin dryness or cracking.

Safety pharses :

S23	Don not breathe vapour / spray.
S36/37	Wear suitable protective clothing and gloves.
S38	In case of insufficient ventilation, wear suitable respiratory equipment.
S45	In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible)
S51	Use only in well-ventilation areas.

Contains : Xylene
4,5 dichrolo-2-octyl-2H-isothiazol-3-one

Additional information : IMO Antifouling System Conversion compliant (AFS/CONF/26)

ANTI FOULING PRODUCT FOR PROFESSIONAL USE TO CONTROL WEED AND AMINAL (BANACLE) FOULING ON VESSELS.

FOR USE ONLY AN ANTIFOULING PRODUCT.

DO NOT BREATHE SPRAY MIST.

WEAR SUITABLE PROTECTIVE CLOTHING (COVERALLS OF A CONTRASTING COLOUR TO THE PRODUCT BEEING APPLIED, UNDERNEATHA DISPOSABLE COVERALL WITH HOOD) SUITABLE GLOVES AND IMPERVIOUS FOOTWEAR THAT PRODUCTS THE LOWER LEG

WEAR SUITABLE THE RESPIRATORY EQUIPMENT (such as air-fed respiratory protective equipment with combined protective helmet and visor) when spraying.

DISPOSE OF PROTECTIVE GLOVES after use.

UNPROTECTED PERSONS SHOULD BE KEPT OUT OF TREATMENT AREAS.

This product does not contain organotin compounds acting as biocides and complies with the International Conventional on the Control of harmful Anti-fouling System on Ships as adopted by IMO in october 2001 (IMO document FS/CONF/26)

16. OTHER INFORMATION

CEPE Classification	:	1	
Full text of R-pharses	:	R10	Flammable
		R11	Highly flammable.
		R20/21	Harmful by inhalation and in contact with skin
		R22	Harmful if swallowed.
		R23	Toxicity inhalation.
		R34	Cause burns
		R36/37	Irritating to eyes and respiratory system.
		R38	Irritaing to skin.
		R43	May cause sensitisation by skin contact.
		R45	May cause cancer
		R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
		R66	Repeated exposure may cause skin dryness or cracking.

The information on this safety data sheet is based upon the present state of our knowledge and on current law.
The product should not be used for purposes other than shown in the product data sheet without first obtaining written advice.

It is always the responsibility of the user to take all necessary steps to meet the demands of applicable legislation.

The information in this Material Safety Data Sheet is required according to legislation.