



KUMIAI CHEMICAL INDUSTRY CO., LTD.

4-26, IKENOHATA 1-CHOME, TAITO-KU
TOKYO 110-8782, JAPAN

SAFETY DATA SHEET

According to GHS (7th revised edition, 2017)

1. Identification of the substance or mixture and of the supplier

1.1 Product identifier

Reference No.	KOS010-05
Product name	Staple [®] SL
Synonyms	Pyriithiobac sodium: Sodium 2-chloro-6-(4,6-dimethoxypyrimidin-2-ylthio)benzoate

1.2 Recommended use of the chemical and restrictions on use

Herbicide for agricultural use

1.3 Supplier's details

Manufacturer and address	Kumiai Chemical Industry Co., Ltd. Planning & Administration Section Overseas Marketing Department 4-26, Ikenohata 1-chome, Taito-ku, Tokyo 110-8782 Japan
Person responsible for SDS	Atsushi Yasuda
Telephone	+81 (0)3 3822 5065
Telefax	+81 (0)3 3828 6148
e-mail	soumu@kumiai-chem.co.jp

1.4 Emergency telephone (not available outside office hours)

Telephone in Japan	+81 (0)3 3822 5065
--------------------	--------------------

2. Hazard identification

Classification of the substance or mixture

2.1 Physical hazards

Not relevant

2.2 Health hazard

Acute toxicity Oral	Not classified
Dermal	Not classified
Inhalation (gas)	Not applicable
(vapour)	Classification not possible
(mist)	Not applicable
Skin corrosion/irritation	Not classified
Serious eye damage/eye irritation	Not classified
Respiratory sensitization	Classification not possible
Skin sensitization	Not classified
Germ cell mutagenicity	Not classified

Carcinogenicity	Category 2	H351
Reproductive toxicity	Classification not possible	
Specific target organ toxicity (single exposure)	Classification not possible	
Specific target organ toxicity (repeated exposure)	Classification not possible	
Aspiration hazard	Classification not possible	

2.3 Environmental hazard

Hazardous to the aquatic environment - Acute	Category 1	H400
Hazardous to the aquatic environment - Chronic	Category 1	H410

2.4 Label elements

Pictograms or hazard symbols



Signal words

Warning

Hazard statements

H351	Suspected of causing cancer
H400	Toxic to aquatic life
H410	Toxic to aquatic life with long lasting effects.

Precautionary statements

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P391	Collect spillage.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local regulation.

3. Composition/information on ingredients

Substance/Mixture Mixture

CAS No.	Content (%, w/w)	Name	Hazard category Hazard statement codes
123343-16-8	33.6	pyrithiobac-sodium	Skin corrosion/irritation: Category 2 H315 Serious eye damage/eye irritation: H319 Aquatic toxicity - acute: Category 1 H400 Aquatic toxicity - chronic: Category 1 H410.
(not applicable)	66.4	(non-classified constituent)	

4. First aid measures

4.1 Description of necessary first-aid measures

Inhalation	Call a POISON CENTER/doctor if you feel unwell.
Skin contact	Call a POISON CENTER/doctor if you feel unwell.
Eye contact	Rinse cautiously with water for several minutes.
Ingestion	Rinse mouth. Call a POISON CENTER or doctor if you feel unwell.

4.2 Most important symptoms/effects, acute and delayed

Not available

4.3 Indication of immediate medical attention and special treatment needed, if necessary

Not available

5. Fire-fighting measures

5.1 Suitable extinguishing media

Suitable extinguishing media	Foam, dry chemical powder, CO ₂ or dry sand
Unsuitable extinguishing media	Water spray, Rod-like water

5.2 Special hazards arising from the chemical

CO, CO₂, SO, SO₂, oxides of nitrogen and chlorides are potential thermal decomposition products.

5.3 Special protective actions for firefighters

Fire fighters should avoid downwind operation.

Wear full protective suit. In case of major fires, wear self-contained breathing apparatus.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Evacuate non essential personnel by roping an area of leak or spill.

Wear appropriate protective gears to avoid breathing vapour and contact with skin, eyes or clothing when working on a spill (see Section 8).

Ventilate the closed area.

6.2 Environmental precautions

Avoid release to the environment.

6.3 Methods and materials for containment and cleaning up

Adsorb spills with inert materials (e.g. dry sand or earth), then place in a waste chemical container for disposal.

Prevent spills from entering sewers, watercourses or low areas.

Remove all sources of ignition; flares, smoking or flames in the area immediately.

Stop leak if safe to do so.

7. Handling and storage

7.1 Precautions for safe handling

Wash hands thoroughly after handling.

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

Avoid release to the environment.

Wear protective gloves/protective clothing.

7.2 Conditions for safe storage, including any incompatibilities
Store locked up.

8. Exposure controls/personal protection

8.1 Control parameters

ACGIH TLV (1992-93) Not established

8.2 Occupational exposure limit values or biological limit values

Not established

8.3 Appropriate engineering controls

Make available emergency shower and eye washes in a work area and storage area.

Make available local exhaust ventilation and use sealed equipment to avoid exposure.

8.4 Individual protection measures, such as personal protective equipment

Eye protection Wear safety goggles as appropriate.

Skin protection Wear gloves, protective garment (coverall) and boots as appropriate.

Respiratory protection Wear chemical cartridge respirator with an organic vapour cartridge, airline respirator, positive pressure self-contained breathing apparatus as appropriate.

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance (physical state, colour etc.)	Clear blue solution
Odour	No data available
Odour threshold	No data available
pH	4.86 (representative data)
Melting point/freezing point	Not applicable
Initial boiling point/boiling range	No data available
Flash point	No data available
Evaporation rate	No data available
Flammability (solid, gas)	No data available
Upper/lower flammability or explosive limits	No data available
Vapour pressure	No data available
Vapour density	No data available
Relative density	1.156 (representive data)
Water solubility	Soluble
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Viscosity	No data available

10. Stability and reactivity

10.1 Reactivity

No data available

10.2 Chemical stability

Stable under normal conditions

10.3 Possibility of hazardous reactions

Hazardous polymerization has not been reported to occur under normal temperatures and pressures.

10.4 Conditions to avoid

Keep away from heat or steam pipe.

10.5 Incompatible materials

Strong acid and alkali

10.6 Hazardous decomposition products

CO, CO₂, SO, SO₂, oxides of nitrogen and chlorides are potential thermal decomposition products.

11. Toxicological information

Acute toxicity

Oral	(rat)	LD ₅₀ >5000 mg/kg	Not classified
Dermal	(rat)	LD ₅₀ >5000 mg/kg	Not classified
Inhalation	(gas)	Not applicable	Not applicable
	(vapour)	Data lacking	Classification not possible
	(mist)	LC ₅₀ >5.2 mg/L	Not classified

Skin corrosion/irritation

Not classified

Not classified because the substance was not irritating to skin in a rat study.

Serious eye damage/irritation

Not classified

Not classified because the substance was not irritating to eye in a rabbit study.

Respiratory or skin sensitisation

Respiratory: Classification not possible
 Skin: Not classified

Respiratory sensitisation: Data lacking

Skin sensitisation: Not classified because negative result was reported in guinea pig study with Buehler method.

Germ cell mutagenicity

Not classified

The mixture does not contain any ingredients classified as mutagenic toxicants.

Carcinogenicity

Category 2

Classified as Category 2 because US EPA has concluded that the available data provide limited evidence of the carcinogenicity of pyriithiobac-sodium in mice and rats and has classified pyriithiobac-sodium as a Group C (possible human carcinogen with limited evidence of carcinogenicity in animals) in accordance with Agency guidelines, published in the Federal Register of (September 24, 1986, 51 FR 33992) and recommended that for the purpose of risk characterization a low dose extrapolation model should be applied to the experimental animal tumor data for quantification for human risk (Q 1*). This decision was based on liver adenomas, carcinomas and combined.

Reproductive toxicity

Classification not possible

The mixture does not contain any ingredients classified as reproductive toxicants.

STOT-single exposure

Classification not possible

Insufficient data

STOT-repeated exposure
Insufficient data

Classification not possible

Aspiration hazard
Data lacking

Classification not possible

12. Ecological information

Acute aquatic toxicity

Category 1

Classified as Category 1 because the mixture contains 33.6% of pyriithiobac-sodium which is classified as Acute 1. The result of the calculation of sum of the concentration (in %) fall int classification of the mixture as Acute 1 ($Acute\ 1 \times M \geq 25\%$).

Chronic aquatic toxicity

Category 1

Classified as Category 1 because the mixture is classified as Category 1 in acute aquatic toxicity and is thought of as lack of rapid degradability.

12.1 Toxicity

Information on: Pyriithiobac-sodium

Fish (bluegill sunfish)	LC ₅₀ (96h)	>930 mg/L
(rainbow trout)		>1000 mg/L
<i>Daphnia magna</i>	LC ₅₀ (48h)	>1000 mg/L
Green algae	ErC ₅₀ (72h)	0.107 mg/L

12.2 Persistence and degradability

Information on: Pyriithiobac-sodium

DT ₅₀ soil	60 days at 20°C (aerobic) 128 days at 20°C (anaerobic)
Biodegradability	Not readily biodegradable

12.3 Bioaccumulative potential

Information on: Pyriithiobac-sodium

log Pow -0.84 (pH 7)

12.4 Mobility in soil

Information on: Pyriithiobac-sodium

Adsorption/desorption Koc 17

13. Disposal considerations

13.1 Waste treatment methods

The recommended means of safe disposal is via controlled incineration at an approved chemical waste facility according to official regulations.

Typically the unit is a two-stage incinerator with the first stage operating between 900°C and 1050°C, and the second at 1050°C. The time in the incinerator varies on the loading throughput, but is not less than 4 hours for the cycle.

For disposal of small amount, adsorb with diatom earth and then burn in chemical incinerator equipped with afterburner and scrubber. Do not dump into sewers or into any body of water. The water containing the product should be drained after being cleaned with activated sludge.

No other method of disposal is recommended.

14. Transport information

14.1 UN number

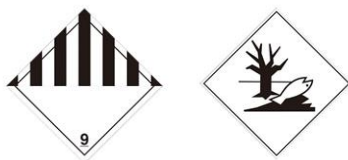
3082

14.2 UN proper shipping name

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(Sodium 2-chloro-6-(4,6-dimethoxypyrimidin -2-ylthio)benzoate)

14.3 Transport hazard class(es)

9



14.4 Packing group

III

14.5 Environmental hazards

Marine pollutant (P)

14.6 Special precautions for user

Do not transport the product with food and/or feed.

For the transportation, avoid elevated temperature and direct sunlight. Load the product without crushing, corroding of container and/or leaking from container. Prevent collapse of cargo.

Do not load heavy goods on the top.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not relevant

15. Regulatory information

Not relevant

16. Other information

To the best of our knowledge, the information contained herein is accurate. However, we cannot assume any liability whatsoever for the accuracy or completeness of the information contained herein.