

Date of issue 7/2/2024 (month/day/year)

Version 4.02

## Section 1. Chemical product and company identification

- A. Product name** : PPG NEXEON 810 BROWN  
**Product code** : 00468776
- B. Relevant identified uses of the substance or mixture and uses advised against**
- Product use** : Professional applications, Used by spraying.  
**Use of the substance/ mixture** : Coating.  
**Uses advised against** : Product is not intended, labelled or packaged for consumer use.
- C. Supplier's or Importer's information** : PPG SSC  
(680-090)  
19, Yecheon-ro 217beon-gil, Nam-gu,  
Ulsan, Korea  
Tel: +82-52-210-8222
- Email Address** : Korea.MSDS@PPG.COM
- Emergency telephone number:** : +82-52-210-8331

## Section 2. Hazards identification

- A. Hazard classification** : FLAMMABLE LIQUIDS - Category 3  
ACUTE TOXICITY (oral) - Category 4  
ACUTE TOXICITY (inhalation) - Category 3  
SERIOUS EYE DAMAGE - Category 1  
CARCINOGENICITY - Category 2  
REPRODUCTIVE TOXICITY - Category 2  
SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2  
SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1  
LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1

This product is classified in accordance with the Industrial Safety and Health Act and the Chemical Control Act.

**B. GHS label elements, including precautionary statements**

**Symbol** :



**Signal word** :

Danger

## Section 2. Hazards identification

- Hazard statements** : H226 - Flammable liquid and vapour.  
H302 - Harmful if swallowed.  
H318 - Causes serious eye damage.  
H331 - Toxic if inhaled.  
H351 - Suspected of causing cancer.  
H361 - Suspected of damaging fertility or the unborn child.  
H373 - May cause damage to organs through prolonged or repeated exposure.  
(central nervous system (CNS), kidneys, liver)  
H410 - Very toxic to aquatic life with long lasting effects.
- Precautionary statements**
- Prevention** : P202 - Do not handle until all safety precautions have been read and understood.  
P280 - Wear protective gloves, protective clothing and eye or face protection.  
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P241 - Use explosion-proof electrical, ventilating or lighting equipment.  
P242 - Use non-sparking tools.  
P243 - Take action to prevent static discharges.  
P273 - Avoid release to the environment.  
P260 - Do not breathe vapour.  
P270 - Do not eat, drink or smoke when using this product.  
P264 - Wash thoroughly after handling.
- Response** : P391 - Collect spillage.  
P308 + P313 - IF exposed or concerned: Get medical advice or attention.  
P304 + P340, P311 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor.  
P305 + P351 + P338, P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.
- Storage** : P403 + P235 - Store in a well-ventilated place. Keep cool.
- Disposal** : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

- C. Other hazards which do not result in classification** : Prolonged or repeated contact may dry skin and cause irritation.

## Section 3. Composition/information on ingredients

### CAS number/other identifiers

- CAS number** : Not applicable.

Chemical name	Common name	Identifiers	%
ethylbenzene	ETHYLBENZENE	CAS: 100-41-4	10 -<20
Xylene	XYLENES	CAS: 1330-20-7	5 - <10
1-methoxy-2-propanol	PROPYLENE GLYCOL MONOMETHYL ETHER	CAS: 107-98-2	5 - <10
zinc pyrithione	ZINC PYRITHIONE	CAS: 13463-41-7	5 - <10
Talc , not containing asbestiform fibres	Talc, non-asbestos form	CAS: 14807-96-6	5 - <10
diiron trioxide	Diiron trioxide	CAS: 1309-37-1	1 - <5
4-Bromo-2-(4-chlorophenyl)-5-(trifluoromethyl)-1H-pyrrole-3-carbonitrile	1H-pyrrole-3-carbonitrile,4-bromo-2-(4-chlorophenyl)-5-(trifluoromethyl)-	CAS: 122454-29-9	1 - <5
carbon black, respirable powder	CARBON BLACK	CAS: 1333-86-4	0.1 - <1

### Section 3. Composition/information on ingredients

5-[1-(2,3-Dimethylphenyl)ethyl]-1H-imidazole	4-[1-(2,3-Dimethylphenyl)ethyl]-1H-imidazole	CAS: 86347-14-0	<0.1
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There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

### Section 4. First aid measures

- A. Eye contact** : Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek immediate medical attention.  
In case of accidental eye contact, avoid direct exposure to the sun or other sources of UV light as severe irritation including burns may result. These reactions can be delayed – get medical attention if pain, irritation or blistering occurs after contact.
- B. Skin contact** : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognised skin cleanser. Do NOT use solvents or thinners.
- C. Inhalation** : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.
- D. Ingestion** : If swallowed, seek medical advice immediately and show the container or label. Keep person warm and at rest. Do NOT induce vomiting.
- E. Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

### Section 5. Firefighting measures

- A. Extinguishing media**
- Suitable extinguishing media** : Use dry chemical, CO<sub>2</sub>, water spray (fog) or foam.
- Unsuitable extinguishing media** : Do not use water jet.
- B. Specific hazards arising from the chemical** : Flammable liquid and vapour. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. This material is very toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

## Section 5. Firefighting measures

**Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
carbon oxides  
nitrogen oxides  
sulfur oxides  
halogenated compounds  
metal oxide/oxides

**C. Special equipment for fire-fighting** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

**Fire-fighting procedures** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

## Section 6. Accidental release measures

**A. Personal precautions, protective equipment and emergency procedures** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

**B. Environmental precautions** : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

### C. Methods and material for containment and cleaning up

**Small spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

**Large spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## Section 7. Handling and storage

**A. Precautions for safe handling** : Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved

## Section 7. Handling and storage

alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

### B. Conditions for safe storage, including any incompatibilities

: Store between the following temperatures: 0 to 35°C (32 to 95°F). Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidising materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

## Section 8. Exposure controls/personal protection

### A. Occupational exposure limits

Ingredient name	Exposure limits
ethylbenzene	<b>Ministry of Employment and Labor (Republic of Korea, 1/2020).</b> STEL: 125 ppm 15 minutes. TWA: 100 ppm 8 hours.
Xylene	<b>Ministry of Employment and Labor (Republic of Korea, 1/2020). [Xylene]</b> STEL: 150 ppm 15 minutes. TWA: 100 ppm 8 hours.
1-methoxy-2-propanol	<b>Ministry of Employment and Labor (Republic of Korea, 1/2020).</b> STEL: 150 ppm 15 minutes. TWA: 100 ppm 8 hours.
Talc , not containing asbestiform fibres	<b>Ministry of Employment and Labor (Republic of Korea, 1/2020).</b> TWA: 2 mg/m <sup>3</sup> 8 hours. Form: fibers
diiron trioxide	<b>Ministry of Employment and Labor (Republic of Korea, 1/2020). [Iron oxide]</b> TWA: 5 mg/m <sup>3</sup> , (as Fe) 8 hours. Form: Fume
carbon black, respirable powder	<b>Ministry of Employment and Labor (Republic of Korea, 1/2020).</b> TWA: 3.5 mg/m <sup>3</sup> 8 hours. Form: Inhalable fraction

### Recommended monitoring procedures

: Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

## Section 8. Exposure controls/personal protection

- B. Appropriate engineering controls** : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.
- C. Personal protective equipment**
- Respiratory protection** : 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. If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.
- Eye protection** : Chemical splash goggles and face shield.
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Gloves** : For prolonged or repeated handling, use the following type of gloves:
- Not recommended: nitrile rubber  
Recommended: neoprene, natural rubber (latex), butyl rubber, polyvinyl alcohol (PVA), Viton®
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.
- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

## Section 9. Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

- A. Appearance**
- Physical state** : Liquid.
- Colour** : Not available.
- B. Odour** : Characteristic.
- C. Odour threshold** : Not available.
- D. pH** :

## Section 9. Physical and chemical properties

- Not applicable.
- E. Melting/freezing point : Not available.
- F. Boiling point/boiling range : >37.78°C (>100°F)
- G. Flash point : Closed cup: 26°C (78.8°F)
- H. Evaporation rate : Not available.
- I. Flammability (solid, gas) : Not available.
- J. Lower and upper explosive (flammable) limits : Greatest known range: Lower: 1.48% Upper: 13.74% (1-methoxy-2-propanol)

## K. Vapour pressure :

Ingredient name	Vapour Pressure at 20°C			Vapour pressure at 50°C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
ethylbenzene	9.30076	1.2				

## L. Solubility(ies) :

Media	Result
cold water	Not soluble

Solubility in water : Not available.

M. Vapour density : Not available.

N. Relative density : 1.45

O. Partition coefficient: n-octanol/water : Not applicable.

P. Auto-ignition temperature :

Ingredient name	°C	°F	Method
1-methoxy-2-propanol	270	518	

Q. Decomposition temperature : Not available.

R. Viscosity : Kinematic (40°C (104°F)): >21 mm<sup>2</sup>/s (>21 cSt)

Flow time (ISO 2431) : Not available.

S. Molecular weight : Not applicable.

## Section 10. Stability and reactivity

A. Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

B. Conditions to avoid : When exposed to high temperatures may produce hazardous decomposition products.

C. Incompatible materials : Keep away from the following materials to prevent strong exothermic reactions: oxidising agents, strong alkalis, strong acids.



## Section 10. Stability and reactivity

- D. Hazardous decomposition products** : Depending on conditions, decomposition products may include the following materials: carbon oxides nitrogen oxides sulfur oxides halogenated compounds metal oxide/oxides

## Section 11. Toxicological information

- A. Information on likely routes of exposure** : Not available.

### Potential acute health effects

- Inhalation** : Toxic if inhaled.  
**Ingestion** : Harmful if swallowed.  
**Skin contact** : Defatting to the skin. May cause skin dryness and irritation.  
**Eye contact** : Causes serious eye damage.

### Over-exposure signs/symptoms

- Inhalation** : Adverse symptoms may include the following:  
reduced foetal weight  
increase in foetal deaths  
skeletal malformations
- Ingestion** : Adverse symptoms may include the following:  
stomach pains  
reduced foetal weight  
increase in foetal deaths  
skeletal malformations
- Skin contact** : Adverse symptoms may include the following:  
pain or irritation  
redness  
dryness  
cracking  
blistering may occur  
reduced foetal weight  
increase in foetal deaths  
skeletal malformations
- Eye contact** : Adverse symptoms may include the following:  
pain  
watering  
redness

## B. Health hazards

### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Ethylbenzene	LC50 Inhalation Vapour	Rat	17.8 mg/l	4 hours
	LD50 Dermal	Rabbit	17.8 g/kg	-
	LD50 Oral	Rat	3.5 g/kg	-
Xylene	LD50 Dermal	Rabbit	1.7 g/kg	-
	LD50 Oral	Rat	4.3 g/kg	-
1-methoxy-2-propanol	LC50 Inhalation Vapour	Rat	>7000 ppm	6 hours
	LD50 Dermal	Rabbit	13 g/kg	-
	LD50 Oral	Rat	5.2 g/kg	-
zinc pyrithione	LC50 Inhalation Dusts and mists	Rat	0.14 mg/l	4 hours



## Section 11. Toxicological information

diiron trioxide	LD50 Dermal LD50 Oral LC50 Inhalation Dusts and mists	Rabbit Rat Rat	>2 g/kg 177 mg/kg >5 mg/l	- - 4 hours
4-Bromo-2-(4-chlorophenyl)-5-(trifluoromethyl)-1H-pyrrole-3-carbonitrile	LD50 Oral LC50 Inhalation Dusts and mists	Rat Rat	10 g/kg <0.25 mg/l	- 4 hours
carbon black, respirable powder	LD50 Dermal LD50 Oral LD50 Oral	Rat Rat Rat	520 to 750 mg/kg 28.7 mg/kg >10 g/kg	- - -
5-[1-(2,3-Dimethylphenyl)ethyl]-1H-imidazole	LC50 Inhalation Dusts and mists LD50 Dermal LD50 Oral	Rat Rat Rat	0.14 mg/l >2000 mg/kg >31.25 mg/kg	4 hours - -

**Conclusion/Summary** : There are no data available on the mixture itself.

### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Xylene	Skin - Moderate irritant	Rabbit	-	24 hours 500 mg	-
zinc pyrithione	Eyes - Cornea opacity	Rabbit	4	24 hours	24 hours

### Conclusion/Summary

**Skin** : There are no data available on the mixture itself.

**Eyes** : There are no data available on the mixture itself.

**Respiratory** : There are no data available on the mixture itself.

### Sensitisation

#### Conclusion/Summary

**Skin** : There are no data available on the mixture itself.

**Respiratory** : There are no data available on the mixture itself.

### Mutagenicity

**Conclusion/Summary** : There are no data available on the mixture itself.

### Carcinogenicity

**Conclusion/Summary** : There are no data available on the mixture itself.

### Reproductive toxicity

**Conclusion/Summary** : There are no data available on the mixture itself.

### Teratogenicity

**Conclusion/Summary** : There are no data available on the mixture itself.

### Specific target organ toxicity (single exposure)

**Section 11. Toxicological information**

Name	Classification	Route of exposure	Target organs
Xylene	Category 3	-	Narcotic effects
1-methoxy-2-propanol	Category 3	-	Narcotic effects
Talc , not containing asbestiform fibres	Category 3	-	Respiratory tract irritation

**Specific target organ toxicity (repeated exposure)**

Name	Classification	Route of exposure	Target organs
Xylene	Category 1	-	central nervous system (CNS), kidneys, liver
zinc pyrithione	Category 1	-	-

**Aspiration hazard**

Name	Result
ethylbenzene	ASPIRATION HAZARD - Category 1

**Potential chronic health effects**

- General** : May cause damage to organs through prolonged or repeated exposure. Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.
- Carcinogenicity** : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.
- Mutagenicity** : No known significant effects or critical hazards.
- Reproductive toxicity** : Suspected of damaging fertility or the unborn child.

**Additional information**

Prolonged or repeated contact may dry skin and cause irritation. Sanding and grinding dusts may be harmful if inhaled. Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Inhalation of vapour/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness and nausea and may lead to unconsciousness or death. Avoid contact with skin and clothing.

Chemical name	Identifiers	GHS Classification
ethylbenzene	CAS: 100-41-4	FLAMMABLE LIQUIDS - Category 2 ACUTE TOXICITY (inhalation) - Category 4 CARCINOGENICITY - Category 2 ASPIRATION HAZARD - Category 1 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3
Xylene	CAS: 1330-20-7	FLAMMABLE LIQUIDS - Category 3 ACUTE TOXICITY (dermal) - Category 4 ACUTE TOXICITY (inhalation) - Category 4 SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Narcotic effects) - Category 3 SPECIFIC TARGET ORGAN TOXICITY -

## Section 11. Toxicological information

1-methoxy-2-propanol	CAS: 107-98-2	REPEATED EXPOSURE - Category 1 FLAMMABLE LIQUIDS - Category 3 SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Narcotic effects) - Category 3
zinc pyrrithione	CAS: 13463-41-7	ACUTE TOXICITY (oral) - Category 3 ACUTE TOXICITY (inhalation) - Category 2 SERIOUS EYE DAMAGE - Category 1 REPRODUCTIVE TOXICITY - Category 2 SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 1 SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1
Talc , not containing asbestiform fibres	CAS: 14807-96-6	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Respiratory tract irritation) - Category 3
diiron trioxide	CAS: 1309-37-1	Not classified.
4-Bromo-2-(4-chlorophenyl)-5-(trifluoromethyl)-1H-pyrrole-3-carbonitrile	CAS: 122454-29-9	ACUTE TOXICITY (oral) - Category 2  ACUTE TOXICITY (dermal) - Category 3 ACUTE TOXICITY (inhalation) - Category 3 SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1
carbon black, respirable powder	CAS: 1333-86-4	CARCINOGENICITY - Category 2
5-[1-(2,3-Dimethylphenyl)ethyl]-1H-imidazole	CAS: 86347-14-0	ACUTE TOXICITY (oral) - Category 2  ACUTE TOXICITY (inhalation) - Category 2 SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1

## Section 12. Ecological information

### A. Ecotoxicity

Product/ingredient name	Result	Species	Exposure
ethylbenzene	Acute EC50 1.8 mg/l Fresh water Chronic NOEC 1 mg/l Fresh water	Daphnia Daphnia - <i>Ceriodaphnia dubia</i>	48 hours -
1-methoxy-2-propanol	Acute LC50 23300 mg/l Acute LC50 >4500 mg/l Fresh water	Daphnia Fish	48 hours 96 hours
zinc pyrrithione	Acute EC50 5.513 µg/l Marine water Acute LC50 0.0082 mg/l Chronic NOEC 1.889 µg/l Marine water	Algae - <i>Nitzschia pungens</i> Daphnia Algae - <i>Nitzschia pungens</i>	96 hours 48 hours 96 hours
diiron trioxide	Chronic NOEC 0.0027 mg/l	Daphnia	21 days
4-Bromo-2-(4-chlorophenyl)-5-(trifluoromethyl)-1H-pyrrole-3-carbonitrile	Acute EC50 >100 mg/l Acute EC50 0.012 mg/l  Acute LC50 0.0015 mg/l Acute LC50 0.0013 mg/l Acute NOEC 0.00073 mg/l	Daphnia Daphnia Algae  Daphnia Fish Algae	48 hours 48 hours 72 hours  48 hours 96 hours 72 hours

## Section 12. Ecological information

5-[1-(2,3-Dimethylphenyl)ethyl]-1H-imidazole	Chronic NOEC 0.0002 mg/l Chronic NOEC 0.00017 mg/l Acute EC50 0.65 mg/l	Daphnia Fish Algae - <i>Desmodesmus subspicatus</i>	21 days 33 days 72 hours
	Acute EC50 4.5 mg/l Acute LC50 30 mg/l Chronic NOEC 0.001 mg/l	Daphnia - <i>Daphnia magna</i> Fish - <i>Danio rerio</i> Fish - <i>Cypridon variegatus</i>	48 hours 96 hours 28 days

### B. Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
ethylbenzene	-	79 % - Readily - 10 days	-	-
zinc pyriithione	-	39 % - 28 days	-	-

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
ethylbenzene	-	-	Readily
Xylene	-	-	Readily
zinc pyriithione	-	50%; < 28 day(s)	Not readily
5-[1-(2,3-Dimethylphenyl)ethyl]-1H-imidazole	-	-	Not readily

### C. Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
ethylbenzene	3.6	79.43	Low
Xylene	3.12	7.4 to 18.5	Low
1-methoxy-2-propanol	<1	-	Low
zinc pyriithione	0.9	0.9	Low
5-[1-(2,3-Dimethylphenyl)ethyl]-1H-imidazole	2.9	-	Low

### D. Mobility in soil

Soil/water partition coefficient (K<sub>oc</sub>) : Not available.

E. Other adverse effects : No known significant effects or critical hazards.

## Section 13. Disposal considerations

A. Disposal methods : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

## Section 13. Disposal considerations

**B. Disposal precautions** : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapour from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

## Section 14. Transport information

	UN	IMDG	IATA
<b>A. UN number</b>	UN1992	UN1992	UN1992
<b>B. UN proper shipping name</b>	FLAMMABLE LIQUID, TOXIC, N.O.S. (ethylbenzene, pyriithione zinc)	FLAMMABLE LIQUID, TOXIC, N.O.S. (ethylbenzene, pyriithione zinc)	FLAMMABLE LIQUID, TOXIC, N.O.S. (ethylbenzene, pyriithione zinc)
<b>C. Transport hazard class(es)</b>	3 (6.1)	3 (6.1)	3 (6.1)
<b>D. Packing group</b>	III	III	III
<b>Environmental hazards</b>	Yes. The environmentally hazardous substance mark is not required.	Yes.	Yes. The environmentally hazardous substance mark is not required.
<b>E. Marine pollutant substances</b>	Not applicable.	(pyriithione zinc)	Not applicable.

### Additional information

**UN** : None identified.

**IMDG** : The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.

**IATA** : The environmentally hazardous substance mark may appear if required by other transportation regulations.

### F. Special precaution which a user to be aware of or needs to comply with in connection with transport or transportation

**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.

**Transport in bulk according to IMO instruments** : Not applicable.

## Section 15. Regulatory information

### A. Regulation according to ISHA

**ISHA article 117 (Harmful substances prohibited from manufacture)** : None of the components are listed.

## Section 15. Regulatory information

**ISHA article 118 (Harmful substances requiring permission)** : None of the components are listed.

**Article 2 of Youth Protection Act on Substances Hazardous to Youth** : It is not allowed to sell to persons under the age of 19.

### Exposure Limits of Chemical Substances and Physical Factors

The following components have an OEL:

Ethylbenzene

Xylene

1-methoxy-2-propanol

Talc , not containing asbestiform fibres

diiron trioxide

carbon black, respirable powder

**ISHA Enforcement Regs** : None of the components are listed.

**Annex 19 (Exposure standards established for harmful factors)**

**ISHA Enforcement Regs Annex 21 (Harmful factors subject to Work Environment Measurement)** : The following components are listed: ethyl benzene, xylene, talc / soapstone, iron oxide

**ISHA Enforcement Regs Annex 22 (Harmful Factors Subject to Special Health Check-up)** : The following components are listed: Ethyl benzene, Xylene, Iron oxide (dust, fume)

**Standard of Industrial Safety and Health Annex 12 (Hazardous substances subject to control)** : The following components are listed: ethyl benzene, xylene, zinc and its compounds, iron and its compounds

### B. Regulation according to Chemicals Control Act

**CCA Article 11 (TRI)** : The following components are listed: Barium and its compounds, Ethylbenzene, Xylene including o-,m-,p- isomer, Zinc and its compounds

**Article 18 Prohibited (K-Reach Article 27)** : None of the components are listed.

**Article 19 Subject to authorization (K-Reach Article 25)** : None of the components are listed.

**Article 20 Restricted (K-Reach Article 27)** : None of the components are listed.

**Article 20 Toxic Chemicals (K-Reach Article 20)** : Toxic

**Korea inventory** : All components are listed or exempted.

**CCA Article 39 (Accident Precaution Chemicals)** : The following components are listed: zinc pyrithione

## Section 15. Regulatory information

- C. [Dangerous Materials Safety Management Act](#)** : **Class:** Class 4 - Flammable Liquid  
**Item:** 4. Class 2 petroleums - Water-insoluble liquid  
**Threshold:** 1000 L  
**Danger category:** III  
**Signal word:** Contact with sources of ignition prohibited
- D. [Wastes regulation](#)** : Dispose of contents and container in accordance with all local, regional, national and international regulations.
- E. [Regulation according to other foreign laws](#)**  
**Safety, health and environmental regulations specific for the product** : No known specific national and/or regional regulations applicable to this product (including its ingredients).

## Section 16. Other information

- A. [References](#)** : Korean Ministry of Environment; Chemical Control Act  
Korean Ministry of Labor; Industrial Safety and Health Act  
NIER Notice  
Registry of Toxic Effects of Chemical Substances (RTECS)  
U.S. Environmental Protection Agency, AQUIRE (Aquatic toxicity Information Retrieval) ECOTOX Database System.
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- E. [Other](#)**  
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