



# **SAFETY DATA SHEET**

DULUX WEATHERSHIELD POWERFLEXX

## **Section 1. Identification**

**Product name** : DULUX WEATHERSHIELD POWERFLEXX

**Product use** : Waterborne coating for exterior use.

**Supplier's details** : Akzo Nobel Paints (Singapore) Pte Ltd  
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**Emergency telephone number** : Customer Care Tel.: (65) 6265 0677  
(8.30 am to 5.00 pm, Mon to Fri)

**Version** : 0.16

**Version** : 0.16

**Date of issue/Date of revision** : 20-6-2019

**Date of previous issue** : 21-12-2018

## Section 2. Hazards identification

**Classification of the substance or mixture** : SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1  
LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1

### GHS label elements, including precautionary statements

**Hazard pictograms** :



**Signal word** : Warning

**Hazard statements** : H410 - Very toxic to aquatic life with long lasting effects.

### Precautionary statements

**General** : P102 - Keep out of reach of children.  
P101 - If medical advice is needed, have product container or label at hand.

**Prevention** : P262 - Do not get in eyes, on skin, or on clothing.

**Response** : P312 - Call a POISON CENTER or doctor/physician if you feel unwell.

**Storage** : Not applicable.

**Disposal** : P501 - Dispose of contents and container in accordance with all local, regional, national or international regulations.

**Hazardous ingredients** : 1-isopropyl-2,2-dimethyltrimethylene diisobutyrate  
pyrithione zinc  
terbutryn

**Other hazards which do not result in classification** : None known.

## Section 3. Composition/information on ingredients

**Substance/mixture** : Mixture

Ingredient name	%	CAS number
1-isopropyl-2,2-dimethyltrimethylene diisobutyrate	1 - < 2.5	6846-50-0
pyrithione zinc	0 - < 1	13463-41-7
terbutryn	0 - < 1	886-50-0

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

### Description of necessary first aid measures

**Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.

**Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

**Version** : 0.16

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**Date of previous issue** : 21-12-2018

## Section 4. First aid measures

- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

### Most important symptoms/effects, acute and delayed

#### Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.

#### Over-exposure signs/symptoms

- Eye contact** : No specific data.
- Inhalation** : No specific data.
- Skin contact** : No specific data.
- Ingestion** : No specific data.

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

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

## Section 5. Firefighting measures

### Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

**Specific hazards arising from the chemical** : In a fire or if heated, a pressure increase will occur and the container may burst. 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.

- Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide  
metal oxide/oxides

## **Section 5. Firefighting measures**

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

## **Section 6. Accidental release measures**

### Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : 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. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
- 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.

### Methods and material for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. 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. 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**

### Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Avoid release to the environment. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8.2 for additional information on hygiene measures.

## **Section 7. Handling and storage**

**Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. 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. 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**

### Control parameters

#### Occupational exposure limits

None.

**Appropriate engineering controls** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

**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.

### Individual protection measures

**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.

**Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

### Skin protection

**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** : When prolonged or frequently repeated contact may occur, a glove with a protection class of 6 (breakthrough time greater than 480 minutes according to EN 374) is recommended. When only brief contact is expected, a glove with a protection class of 2 or higher (breakthrough time greater than 30 minutes according to EN 374) is recommended.

NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

The user must check that the final choice of type of glove selected for handling this product is the most appropriate and takes into account the particular conditions of

## Section 8. Exposure controls/personal protection

use, as included in the user's risk assessment.

Gloves should be replaced regularly and if there is any sign of damage to the glove material.

Always ensure that the gloves are free from defects and that they are stored and used correctly.

- 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.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

## Section 9. Physical and chemical properties

### Appearance

- Physical state** : Liquid.
- Colour** : Various: See label.
- Odour** : Not available.
- Odour threshold** : Not available.
- pH** : 8.5
- Melting point** : Not available.
- Initial boiling point and boiling range** : 100°C
- Flash point** : Not applicable.
- Burning time** : Not applicable.
- Burning rate** : Not applicable.
- Evaporation rate** : Not available.
- Flammability (solid, gas)** : Not available.
- Lower and upper explosive (flammable) limits** : Not available.
- Vapour pressure** : Not available.
- Vapour density** : Not available.
- Relative density** : 1.327
- Solubility** : Easily soluble in the following materials: cold water.
- Solubility in water** : Not available.
- Partition coefficient: n-octanol/water** : Not available.
- Auto-ignition temperature** : Not available.
- Decomposition temperature** : Not available.
- SADT** : Not available.
- Viscosity** : Kinematic (room temperature): 3.77 cm<sup>2</sup>/s

## Section 10. Stability and reactivity

- Reactivity** : No specific test data related to reactivity available for this product or its ingredients.
- Chemical stability** : The product is stable.
- Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.
- Conditions to avoid** : No specific data.
- Incompatible materials** : No specific data.
- Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.
- SADT** : Not available.

## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

Not available.

#### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
terbutryn	Eyes - Moderate irritant	Rabbit	-	76 milligrams	-
	Skin - Mild irritant	Rabbit	-	380 milligrams	-

#### Sensitisation

Not available.

#### Mutagenicity

Not available.

#### Carcinogenicity

Not available.

#### Reproductive toxicity

Not available.

#### Teratogenicity

Not available.

#### Specific target organ toxicity (single exposure)

Not available.

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

Not available.

#### Aspiration hazard

Not available.

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

**Version** : 0.16

**Date of issue/Date of revision** : 20-6-2019

**Date of previous issue** : 21-12-2018

## Section 11. Toxicological information

### Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.  
**Inhalation** : No known significant effects or critical hazards.  
**Skin contact** : No known significant effects or critical hazards.  
**Ingestion** : No known significant effects or critical hazards.

### Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : No specific data.  
**Inhalation** : No specific data.  
**Skin contact** : No specific data.  
**Ingestion** : No specific data.

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

#### Short term exposure

- Potential immediate effects** : Not available.  
**Potential delayed effects** : Not available.

#### Long term exposure

- Potential immediate effects** : Not available.  
**Potential delayed effects** : Not available.

### Potential chronic health effects

Not available.

- General** : No known significant effects or critical hazards.  
**Carcinogenicity** : No known significant effects or critical hazards.  
**Mutagenicity** : No known significant effects or critical hazards.  
**Teratogenicity** : No known significant effects or critical hazards.  
**Developmental effects** : No known significant effects or critical hazards.  
**Fertility effects** : No known significant effects or critical hazards.

### Numerical measures of toxicity

#### Acute toxicity estimates

Route	ATE value
Oral Inhalation (vapours)	17581.4 mg/kg 527.4 mg/l

## Section 12. Ecological information

### Toxicity



## Section 12. Ecological information

Product/ingredient name	Result	Species	Exposure
pyrithione zinc	Acute EC50 0.51 µg/l Marine water	Algae - Thalassiosira pseudonana	96 hours
	Acute EC50 8.25 ppb Fresh water	Daphnia - Daphnia magna	48 hours
terbutryn	Acute LC50 2.68 ppb Fresh water	Fish - Pimephales promelas	96 hours
	Chronic EC10 0.36 µg/l Marine water	Algae - Thalassiosira pseudonana	96 hours
	Chronic NOEC 2.7 ppb Fresh water	Daphnia - Daphnia magna	21 days
	Acute EC50 0.1 µg/l Fresh water	Algae - Fragilaria capucina ssp. rumpens	96 hours
	Acute EC50 2 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 1.4 to 2.66 mg/l	Daphnia	48 hours
	Acute EC50 2.66 ppm Fresh water	Daphnia - Daphnia magna	48 hours
	Acute IC50 0.0036 mg/l	Algae - (Selenastrum capricornutum	72 hours
	Acute LC50 579.3 mg/l Fresh water	Crustaceans - Pacifastacus leniusculus - Juvenile (Fledgling, Hatchling, Weanling)	48 hours
	Acute LC50 1.3 mg/l	Fish - Lepomis Macrochirus	96 hours
Acute LC50 1.1 mg/l	Fish - Oncorhynchus Mykiss	96 hours	
Acute LC50 0.82 ppm Fresh water	Fish - Oncorhynchus mykiss	96 hours	
Chronic EC10 0.015 µg/l Fresh water	Algae - Fragilaria capucina ssp. rumpens	96 hours	

### Persistence/degradability

Not available.

### Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
pyrithione zinc	0.9	11	low
terbutryn	3.74	-	low

### Mobility in soil

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

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

## Section 13. Disposal considerations

**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. 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. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

**SECTION 14: Transport information**

**Information pertaining to IATA and ADN is considered not relevant since the material is not packaged in the correct approved packaging required of these methods of transport.**

	<b>ADR</b>	<b>IMDG</b>
<b>14.1 UN number</b>	UN3082	UN3082
<b>14.2 UN proper shipping name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (pyrithione zinc)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (pyrithione zinc). Marine pollutant (pyrithione zinc)
<b>14.3 Transport hazard class(es) Class</b>	9	9
<b>Subsidiary class</b>	-	-
<b>14.4 Packing group</b>	III	III
<b>14.5 Environmental hazards</b>		
<b>Marine pollutant</b>	Yes.	Yes.
<b>Marine pollutant substances</b>		pyrithione zinc
<b>14.6 Special precautions for user</b>	<b>Transport within user's premises:</b> 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.	
<b>HI/Kemler number</b>	90	
<b>Emergency schedules (EmS)</b>		F-A, S-F
<b>14.7 Transport in bulk according to Annex II of Marpol and the IBC Code</b>	: Not applicable.	
<b>Additional information</b>	This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.	This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.

## Section 15. Regulatory information

**Safety, health and environmental regulations specific for the product** : SS586: Specification for hazard communication for hazardous chemicals and dangerous goods.

### Singapore - hazardous chemicals under government control

None.

### International regulations

#### Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

#### Montreal Protocol (Annexes A, B, C, E)

Not listed.

#### Stockholm Convention on Persistent Organic Pollutants

Not listed.

#### Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

#### UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

## Section 16. Other information

**Product code** : 117856

### History

**Date of printing** : 21-6-2019

**Date of issue/Date of revision** : 20-6-2019

**Date of previous issue** : 21-12-2018

**Version** : 0.16

### Key to abbreviations

: ATE = Acute Toxicity Estimate  
 BCF = Bioconcentration Factor  
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
 IATA = International Air Transport Association  
 IBC = Intermediate Bulk Container  
 IMDG = International Maritime Dangerous Goods  
 LogPow = logarithm of the octanol/water partition coefficient  
 MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)  
 UN = United Nations

### Procedure used to derive the classification

Classification	Justification
SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1	Calculation method
LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1	Calculation method

**References** : Not available.

✔ Indicates information that has changed from previously issued version.

### Notice to reader

**Version** : 0.16

**Date of issue/Date of revision** : 20-6-2019

**Date of previous issue** : 21-12-2018

## Section 16. Other information

**IMPORTANT NOTE** *The information in this data sheet is not intended to be exhaustive and is based on the present state of our knowledge and on current laws: any person using the product for any purpose other than that specifically recommended in the technical data sheet without first obtaining written confirmation from us as to the suitability of the product for the intended purpose does so at his own risk. It is always the responsibility of the user to take all necessary steps to fulfill the demands set out in the local rules and legislation. Always read the Material Data Sheet and the Technical Data Sheet for this product if available. All advice we give or any statement made about the product by us (whether in this data sheet or otherwise) is correct to the best of our knowledge but we have no control over the quality or the condition of the substrate or the many factors affecting the use and application of the product. Therefore, unless we specifically agree in writing otherwise, we do not accept any liability whatsoever for the performance of the product or for any loss or damage arising out of the use of the product. All products supplied and technical advice given are subject to our standard terms and conditions of sale. You should request a copy of this document and review it carefully. The information contained in this data sheet is subject to modification from time to time in the light of experience and our policy of continuous development. It is the user's responsibility to verify that this data sheet is current prior to using the product.*

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