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<b>1. Identification of the Substance/Mixture and Supplier.</b>													
Product name:	Impulse												
Other names:	Spiroxamine EC 500E G												
Recommended Use:	A systemic fungicide for the control of powdery mildew in grapes, barley and wheat.												
Company details:	Bayer New Zealand Limited, 3 Argus Place, Hillcrest, North Shore 0627, New Zealand.												
Telephone:	0800 428 246												
Facsimile:	09 441 8645												
Emergency telephone:	0800 734 607 Orica SH&E Shared services (24hr)												
<b>2. Hazards Identification.</b>													
Hazard classification:	Classified as hazardous according to the criteria in the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001.												
Classification and type:	<b>HSNO Class*</b> 6.1D, 6.3A, 6.5B, 6.9A, 8.3A, 9.1A, 9.3C May be harmful if swallowed, inhaled or absorbed through the skin. Harmful – may cause skin irritation. Harmful – may cause sensitisation from prolonged skin contact. Toxic – may cause target organ damage from repeated oral exposure at high doses. Toxic – may cause eye damage. Toxic to fish with long-lasting effects. Harmful to terrestrial vertebrates.												
Risk & Safety Phrases:	R20/21/22, R38, R43, R50/53												
<b>3. Composition/Information on Ingredients.</b>													
	<b>Pure Substance:</b>												
Chemical identity of pure Substance: CAS:	8-(1,1-Dimethylethyl)-N-ethyl-N-propyl-1,4-dioxaspirol [4.5]decane-2-methanamine												
Chemical Identity of Ingredients:	Spiroxamine <b>Mixture:</b>												
	<table border="1"> <thead> <tr> <th>Ingredient</th> <th>CAS No.</th> <th>Content (%w/v)</th> </tr> </thead> <tbody> <tr> <td>Spiroxamine</td> <td>118134-30-8</td> <td>49.8%</td> </tr> <tr> <td>Benzyl alcohol</td> <td>100-51-6</td> <td>25.2%</td> </tr> <tr> <td>Anionic/non-ionic surfactant mixture</td> <td></td> <td>25.0%</td> </tr> </tbody> </table>	Ingredient	CAS No.	Content (%w/v)	Spiroxamine	118134-30-8	49.8%	Benzyl alcohol	100-51-6	25.2%	Anionic/non-ionic surfactant mixture		25.0%
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Description of necessary first aid measures:	In case of poisoning by any exposure route contact the National Poisons and Hazardous Chemicals Information Centre, PO Box 913, Dunedin. Phone 0800 764 766, 0800 POISON.
Workplace facilities:	No specific facilities required. Standard emergency equipment must be available.
Hygiene Practices:	Avoid contact with skin and eyes and inhalation of concentration or spray mist. When mixing or applying, wear protective clothing, including face shield, impervious gloves and footwear. If clothing becomes contaminated with product, remove clothing immediately. DO NOT eat, drink or smoke while using. Wash hands and exposed skin thoroughly with soap and water before meals and after work. Wash protective clothing daily after work.
Poisoning symptoms:	No case of human poisoning due to this product is on record.
Ingestion:	Do NOT induce vomiting. Wash out mouth with water. Call a doctor immediately.
Eye:	If product gets in eyes wash it out immediately with water.
Skin:	If skin contact occurs remove contaminated clothing and wash affected areas thoroughly with soap and water.
Inhaled:	Move person to fresh air and keep at rest until recovered. Call a doctor immediately.
Treatment:	Treat symptomatically. Gastric lavage, then charcoal (carbo medicalis) and sodium sulphate.

**5. Fire-Fighting Measures.**

Fire Hazard Properties:	In the event of fire, the following can be released:  Hydrogen cyanide (hydrocyanic acid) Carbon monoxide (CO) Nitrous gases (NOx)
Extinguishing media:	Water spray, carbon dioxide (CO <sub>2</sub> ), foam, sand
Recommended Protective clothing:	When fighting a major fire wear an air-supplied respirator. Wear protective equipment.

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<b>6. Accidental Release Measures.</b>	
Personal Precautions:	<p><b>Emergency Procedures:</b> Ensure suitable personal protection during removal of spillages. This means wearing eye protection, chemically resistant gloves, boots and overalls.</p>
Environmental Precautions:	Washings must be prevented from entering surface water drains or waterways.
Procedure for spill:	<p>Keep all bystanders away. Wear goggles, half face-piece respirator with combined dust and vapour cartridge, full length clothing and PVC gloves. Contaminated material must be disposed of in accordance with all local authority requirements.</p> <ul style="list-style-type: none"> <li>• For quantities up to 50L of product bury in a secure approved landfill site.</li> <li>• For quantities greater than 50L seek advice from the manufacturer (use emergency contact number) before attempting disposal. Contain in a secure location until disposal method is established.</li> </ul> <p>Decontaminate the spill area with detergent and water and rinse with the smallest volume of water practicable.</p>
Procedure for Disposal:	<p>a) Triple rinsing or preferably pressure rinsing containers with water. Add the rinsings to the spray tank. DO NOT dispose of undiluted chemicals on site. b) Burning of empty containers if circumstances, especially wind direction, permit is an alternative method. Do not burn unless in a suitable incinerator. c) Product or unused spray mix should be disposed of according to label instructions.</p>
<b>7. Handling and Storage.</b>	
Handling Practices:	Avoid contact with skin and eyes and inhalation of concentrate or spray mist. When using, do not eat, drink or smoke. Wash face and hands before eating, drinking or smoking.
Conditions for Safe Storage and Store Site Requirements:	Store in a cool, dry, well ventilated place and protect from sunlight. Storage temperature -10°C - <40°C
Packaging:	Store in original container. Coextruded containers with an internal barrier layer made of ethylene vinyl acetate copolymer (EVOH), HDPE (high density polyethylene)

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<b>8. Exposure Control/Personal Protection</b>	
Engineering measures:	Use in well ventilated areas.
Respiratory protection:	If product is handled while not enclosed, and if skin contact occur: Full mask Multi-range filter ABEKIP2.
Hand protection:	Solvent resistant gloves.
Eye protection:	Chemical goggles/face protection.
Other protective equipment:	Wear suitable protective clothing.
Hygiene measures:	Avoid inhaling aerosols and vapours. Avoid contact with eyes and skin. Store work clothes and street clothes separately. Wash hand before breaks and at the end of work. Change contaminated protective clothing. Keep away from food, drinks and tobacco.
<b>9. Physical and Chemical Properties</b>	
Form:	Liquid, clear
Colour:	Brown
Odour:	Aromatic
Solubility in water:	Emulsifiable
Ignition temperature:	108°C
Flash point:	265°C
Autoignition temperature:	92/69/EEC, A.13 – the product is not self-ignitable
Viscosity:	45-55 sec. Flow time at 20°C
Density:	Ca. 1.0 g/ml at 20°C
Explosivity:	Not explosive 92/69/EEC, A.14/OECD 113
<b>10. Stability and Reactivity</b>	
Stability of the Substance:	Stable under standard conditions.
Conditions to Avoid:	Not applicable
Materials to Avoid:	Not applicable
Hazardous Reactions:	Not applicable

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<b>11. Toxicological Information</b>	
Acute oral toxicity:	LD <sub>50</sub> : rat (male) >200 ->1000mg/kg Test conducted with a similar formulation.
Acute dermal toxicity:	LD <sub>50</sub> : rat >2000mg/kg Test conducted with a similar formulation.
Acute inhalation toxicity:	LC <sub>50</sub> : rat .0.9 - 2323mg/L (4h) (as aerosol) Test conducted with a similar formulation.
Skin irritation:	Irritating to skin (rabbit) Test conducted with a similar formulation.
Eye irritation:	Risk of serious damage to eyes (rabbit) Test conducted with a similar formulation.
Sensitization:	Non-sensitizing (guinea pig) Buehler test Test conducted with a similar formulation.
<b>12. Ecological Information</b>	
Acute fish toxicity:	LD <sub>50</sub> : 11.5mg/l (96h); Rainbow trout ( <i>Oncorhynchus mykiss</i> )
Toxicity for Daphnia:	EC <sub>50</sub> : 10.3mg/l (48h); Water flea ( <i>Daphnia magna</i> )
Toxicity for Algae:	IC <sub>50</sub> : 0.029mg/l; Green algae ( <i>Desmodesmus subspicatus</i> ) Growth rate Exposure time: 72h
<b>13. Disposal Considerations.</b>	
Product Disposal:	Dispose of this product only by using according to the label, or at an approved landfill or other approved facility.
Container Disposal:	Triple rinse the empty container adding rinseate to the spray tank. Recycle if possible. If allowed under local authority, burn if circumstances, especially wind direction permit, otherwise crush and bury in an approved local authority facility. Do not use container for any other purpose.

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<b>14. Transportation Information.</b>	
Rail/Road (RID/ADR)	UN 3082 Environmentally Hazardous Substance, Liquid, N.O.S, (spiroxamine/benzylalcohol solution) Class 9, Packing Group: III Hazchem 3Z.
Sea (IMDG-Code)	UN 3082 Environmentally Hazardous Substance, Liquid, N.O.S, (spiroxamine/benzylalcohol solution) Class 9, Packing Group: III Hazchem 3Z. Marine Pollutant.
Air (ICAO/IATA)	UN 3082 Environmentally Hazardous Substance, Liquid, N.O.S, (spiroxamine/benzylalcohol solution) Class 9, Packing Group: III Hazchem 3Z.
<b>15. Regulatory Information.</b>	
HSNO Approval Number:	HSR007652
HSNO Controls (inc. Tracking):	See <a href="http://www.epa.govt.nz">www.epa.govt.nz</a> for controls.
Approved Handlers required:	Approved Handlers not required at time of use.
ACVM Registration:	P 7419
ACVM Controls:	See <a href="http://www.foodsafety.govt.nz">www.foodsafety.govt.nz</a> for registration conditions.
<b>16. Other Information.</b>	
6.1D May be harmful if swallowed, inhaled or absorbed through the skin. 6.3A Harmful – may cause skin irritation. 6.5B Harmful – may cause sensitisation from prolonged skin contact. 6.9A Toxic – may cause target organ damage from repeated oral exposure at high doses. 8.3A Toxic – may cause eye damage. 9.1A Toxic to fish with long-lasting effects. 9.3C Harmful to terrestrial vertebrates.	
R20/21/22 Harmful by inhalation, in contact with skin and if swallowed. R38 Irritating to skin. R43 May cause sensitisation by skin contact. R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.	

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The data given here is based on current knowledge and experience. The purpose of this Safety Data Sheet is to describe products in terms of their safety requirements. The above details do not imply any guarantee concerning composition, properties or performance of the product.