



# MATERIAL SAFETY DATA SHEET

## Wafy SC

### IDENTIFICATION OF THE SUPPLIER:

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### PRODUCT IDENTIFICATION :

**Common Name:** Imidacloprid +  $\beta$ -cyfluthrin

**Trade Name:** Wafy SC

**Chemical Name:**

Imidacloprid 1-(6-chloro-3-pyridylmethyl)-N-nitroimidazolidin-2-ylideneamine

$\beta$ -cyfluthrin cyano(4-fluoro-3-phenoxyphenyl)methyl 3-(2,2-dichloroethenyl)-2,2-dimethylcyclopropanecarboxylate

**Chemical Formula:**

Imidacloprid  $C_9H_{10}ClN_5O_2$

$\beta$ -cyfluthrin  $C_{22}H_{18}Cl_2FNO_3$

**Molecular Weight:**

Imidacloprid : 255.7

$\beta$ -cyfluthrin: 434.3

### PRODUCT COMPOSITION:

<b>Active Ingredient:</b>	<b>CAS #</b>	<b>g/l</b>
Imidacloprid	[138261-41-3]	50 g/l
$\beta$ -cyfluthrin	[68359-37-5]	25 g/l

**Inert ingredient:** Up to 1 liter





## HAZARDS IDENTIFICATION:

### 2.1 Classification of the substance or mixture

Classification in accordance with Australian GHS Regulation

Acute toxicity: Category 4 Harmful if inhaled.

Acute aquatic toxicity: Category 1 Very toxic to aquatic life.

Chronic aquatic toxicity: Category 1 Very toxic to aquatic life with long lasting effects.

### 2.2 Label elements

Hazardous components which must be listed on the label:

Beta-Cyfluthrin

Imidacloprid

Signal word: Warning

Hazard statements

H332 Harmful if inhaled.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements:

Avoid breathing mist.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Call a POISON CENTER/doctor/physician if you feel unwell.

Dispose of contents/container in accordance with local regulation.

## FIRST AID MEASURES

Description of first aid measures:

General advice: Move out of dangerous area. Place and transport victim in stable position (lying sideways). Remove contaminated clothing immediately and dispose of safely.

Inhalation: Move to fresh air. Keep patient warm and at rest. Call a physician or poison control center immediately.

Skin contact: immediately wash with plenty of soap and water for at least 15 minutes. Warm water may increase the subjective severity of the irritation/paresthesia. This is not a sign of systemic poisoning. In case of skin irritation, application of oils or lotions containing vitamin E may be considered. If symptoms persist, call a physician.





**Eye contact:** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Warm water may increase the subjective severity of the irritation/paresthesia. This is not a sign of systemic poisoning. Apply soothing eye drops, if needed anaesthetic eye drops. Get medical attention if irritation develops and persists.

**Ingestion** Rinse out mouth and give water in small sips to drink. Do NOT induce vomiting. Do not leave victim unattended. Call a physician or poison control center immediately.

Most important symptoms and effects, both acute and delayed:

**Symptoms Local:**, Skin and eye paraesthesia which may be severe, Usually transient with resolution within 24 hours, Skin, eye and mucous membrane irritation, Cough, Sneezing

**Systemic:**, discomfort in the chest, Tachycardia, Hypotension, Nausea, Abdominal pain, Diarrhoea, Vomiting, Blurred vision, Headache, anorexia, Somnolence, Coma, Convulsions, Tremors, Prostration, Airway hyperreaction, Pulmonary oedema, Palpitation, Muscular fasciculation, Apathy, Dizziness

Indication of any immediate medical attention and special treatment needed:

Risks this product contains a pyrethroid. Pyrethroid poisoning should not be confused with carbamate or organophosphate poisoning. Treatment Systemic

**Treatment:** Initial treatment: symptomatic. Monitor: respiratory and cardiac functions. In case of ingestion gastric lavage should be considered in cases of significant ingestions only within the first 2 hours. However, the application of activated charcoal and sodium sulphate is always advisable. Keep respiratory tract clear. Oxygen or artificial respiration if needed. In case of convulsions, a benzodiazepine (e.g. diazepam) should be given according to standard regimens. If not effective, phenobarbital may be used. Contraindication: atropine. Contraindication: derivatives of adrenaline. There is no specific antidote. Recovery is spontaneous and without sequelae. In case of skin irritation, application of oils or lotions containing vitamin E may be considered.





## **FIRE FIGHTING MEASURES:**

Extinguishing media Suitable: Water spray, Carbon dioxide (CO<sub>2</sub>), Foam, Dry chemical

Special hazards arising from the substance or mixture: In the event of fire the following may be released: Hydrogen chloride (HCl), Hydrogen cyanide (hydrocyanic acid), Carbon monoxide (CO), Nitrogen oxides (NO<sub>x</sub>)

Advice for firefighter's Special protective equipment for firefighters In the event of fire and/or explosion do not breathe fumes. In the event of fire, wear self-contained breathing apparatus.

Further information: Avoid contact with spilled product or contaminated surfaces. Contain the spread of the fire-fighting media. Do not allow run-off from firefighting to enter drains or water courses. Remove product from areas of fire, or otherwise cool containers with water in order to avoid pressure being built up due to heat. Whenever possible, contain firefighting water by diking area with sand or earth.

## **ACCIDENTAL RELEASE MEASURES:**

Personal precautions, protective equipment and emergency procedures:

Precautions: Avoid contact with spilled product or contaminated surfaces. Use personal protective equipment. When dealing with a spillage do not eat, drink or smoke. Keep unauthorized people away.

Environmental precautions do not allow to get into surface water, drains and ground water. If the product contaminates rivers and lakes or drains inform respective authorities.

Methods and materials for containment and cleaning up

Methods for cleaning up: Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Clean contaminated floors and objects thoroughly, observing environmental regulations. Keep in suitable, closed containers for disposal.

## **HANDLING AND STORAGE :**

Precautions for safe handling:

Advice on safe handling: Use only in area provided with appropriate exhaust ventilation.





Hygiene measures: Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. Remove and wash contaminated gloves, including the inside, before re-use. Keep working clothes separately. Garments that cannot be cleaned must be destroyed (burnt). Remove soiled clothing immediately and clean thoroughly before using again.

Conditions for safe storage, including any incompatibilities:

Requirements for storage areas and containers: keep out of the reach of children. Store in original container Store in a place accessible by authorized persons only. Keep containers tightly closed in a dry, cool and well-ventilated place.

Advice on common storage: Keep away from food, drink and animal feedingstuffs.

**EXPOSURE CONTROLS/ PERSONAL PROTECTION:**

Components	CAS-No.	Control parameters	Update	Basis
Beta-Cyfluthrin	68359-37-5	0.01 mg/m <sup>3</sup> (TWAEV)		OES BCS*
Imidacloprid	138261-41-3	0.7 mg/m <sup>3</sup> (TWA)		OES BCS*
Glycerine (Inhalable mist.)	56-81-5	10 mg/m <sup>3</sup> (TWA)	12 2011	AU NOEL

Exposure controls:

Respiratory protection Respiratory protection is not required under anticipated circumstances of exposure. Respiratory protection should only be used to control residual risk of short duration activities, when all reasonably practicable steps have been taken to reduce exposure at source e.g. containment and/or local extract ventilation. Always follow respirator manufacturer's instructions regarding wearing and maintenance.

Hand protection: Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.

Wash gloves when contaminated. Dispose of when contaminated inside, when perforated or when contamination on the outside cannot be removed. Wash hands frequently and always before eating, drinking, smoking or using the toilet.





Material Nitrile rubber

Rate of permeability > 480 min

Glove thickness > 0.4 mm

Protective index Class 6

Directive Protective gloves complying with EN 374.

Eye protection: Wear goggles (conforming to EN166, Field of Use = 5 or equivalent).

Skin and body protection: Wear standard coveralls and Category 3 Type 4 suit. If there is a risk of significant exposure, consider a higher protective type suit.

Wear two layers of clothing wherever possible. Polyester/cotton or cotton overalls should be worn under chemical protection suit and should be professionally laundered frequently. If chemical protection suit is splashed, sprayed or significantly contaminated, decontaminate as far as possible, then carefully remove and dispose of as advised by manufacturer.

General protective measures: In normal use and handling conditions please refer to the label and/or leaflet. In all other cases the above mentioned recommendations would apply. If product is handled while not enclosed, and if contact may occur: Complete suit protecting against chemicals

Engineering Controls: Advice on safe handling Use only in area provided with appropriate exhaust ventilation.

## PHYSICAL AND CHEMICAL PROPERTIES:

**Form:** suspension

**Colour:** light beige to light brown

**PH:** 4.5 - 7.0 at 100 % (23 °C)

**Density:** ca. 1.08 g/cm<sup>3</sup> at 20 °C

Partition coefficient: noctanol/water

Beta-Cyfluthrin: log Pow: 6.18 at 22 °C Imidacloprid: log Pow: 0.57

## STABILITY AND REACTIVITY:

**Reactivity:** Thermal decomposition Stable under normal conditions.

**Chemical stability:** Stable under recommended storage conditions.





**Possibility of hazardous reactions:** No hazardous reactions when stored and handled according to prescribed instructions.

**Conditions to avoid:** Extremes of temperature and direct sunlight.

**Incompatible materials:** Strong acids, Strong bases, Strong oxidizing agents

**Hazardous decomposition products:**

Thermal decomposition can lead to release of:

Hydrogen chloride (HCl)

Hydrogen cyanide (hydrocyanic acid)

Hydrogen fluoride

Carbon monoxide

Nitrogen oxides (NO<sub>x</sub>)

## TOXICOLOGICAL INFORMATION:

Acute oral toxicity: LD<sub>50</sub> (Rat) > 1,044 mg/kg

Test conducted with a similar formulation.

Acute inhalation toxicity: LC<sub>50</sub> (Rat) > 2.03 mg/l

Exposure time: 4 h

Highest attainable concentration.

Determined in the form of liquid aerosol.

Test conducted with a similar formulation.

Acute dermal toxicity: LD<sub>50</sub> (Rat) > 2,000 mg/kg

Test conducted with a similar formulation.

Skin irritation slight irritation (Rabbit)

The value mentioned relates to the active ingredient beta-cyfluthrin.

No skin irritation (Rabbit)

The value mentioned relates to the active ingredient imidacloprid.

Eye irritation Mild eye irritation. (Rabbit)

The value mentioned relates to the active ingredient beta-cyfluthrin.

No eye irritation (Rabbit)

The value mentioned relates to the active ingredient imidacloprid.

Sensitisation Non-sensitizing. (Guinea pig)

OECD Test Guideline 406, Magnusson & Kligman test

The value mentioned relates to the active ingredient beta-cyfluthrin.

Non-sensitizing. (Guinea pig)

OECD Test Guideline 406, Magnusson & Kligman test

The value mentioned relates to the active ingredient imidacloprid



Assessment mutagenicity Imidacloprid was not mutagenic or genotoxic based on the overall weight of evidence in a battery of in vitro and in vivo tests. Cyfluthrin was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.

Assessment carcinogenicity:

Imidacloprid was not carcinogenic in lifetime feeding studies in rats and mice.

Cyfluthrin was not carcinogenic in lifetime feeding studies in rats and mice.

Assessment toxicity to reproduction:

Imidacloprid caused reproduction toxicity in a two-generation study in rats only at dose levels also toxic to the parent animals. The reproduction toxicity seen with Imidacloprid is related to parental toxicity.

Cyfluthrin caused reproduction toxicity in a two-generation study in rats only at dose levels also toxic to the parent animals. The reproduction toxicity seen with Cyfluthrin is related to parental toxicity

Assessment developmental toxicity: Imidacloprid caused developmental toxicity only at dose levels toxic to the dams. The developmental effects seen with Imidacloprid are related to maternal toxicity. Cyfluthrin caused developmental toxicity only at dose levels toxic to the dams. The developmental effects seen with Cyfluthrin are related to maternal toxicity.

Assessment STOT Specific target organ toxicity – repeated exposure Imidacloprid did not cause specific target organ toxicity in experimental animal studies. The toxic effects of Cyfluthrin are related to transient hyperactivity typical for pyrethroid neurotoxicity.

Information on likely routes of exposure

Toxic by inhalation.

May cause skin irritation.

May cause eye irritation.

## ECOLOGICAL INFORMATION:

**Toxicity to fish:** LC50 (Oncorhynchus mykiss (rainbow trout)) 0.068 µg/l

Exposure time: 96 h

The value mentioned relates to the active ingredient beta-cyfluthrin.

LC50 (Oncorhynchus mykiss (rainbow trout)) 211 mg/l





Exposure time: 96 h

The value mentioned relates to the active ingredient imidacloprid.

**Toxicity to aquatic invertebrates:**

EC50 (*Daphnia magna* (Water flea)) 0.29 µg/L

Exposure time: 48 h

The value mentioned relates to the active ingredient beta-cyfluthrin.

EC50 (*Daphnia magna* (Water flea)) 85 mg/l

Exposure time: 48 h

The value mentioned relates to the active ingredient imidacloprid.

LC50 (*Chironomus riparius* (non-biting midge)) 0.0552 mg/l

Exposure time: 24 h

The value mentioned relates to the active ingredient imidacloprid.

**Chronic toxicity to aquatic invertebrates**

EC10 (*Chironomus riparius* (non-biting midge)): 2, 09 µg/l

Exposure time: 28 d

The value mentioned relates to the active ingredient imidacloprid.

**Toxicity to aquatic plants** IC50 (*Desmodesmus subspicatus* (green algae)) > 0.01 mg/l

Exposure time: 72 h

The value mentioned relates to the active ingredient beta-cyfluthrin.

No acute toxicity was observed at its limit of water solubility.

IC50 (*Desmodesmus subspicatus* (green algae)) > 10 mg/l

Exposure time: 72 h

The value mentioned relates to the active ingredient imidacloprid.

**Toxicity to other organisms** LD50 (*Coturnix japonica* (Japanese quail)) > 2,000 mg/kg the value mentioned relates to the active ingredient beta-cyfluthrin.

**Persistence and degradability:**

Biodegradability Beta-Cyfluthrin: Not rapidly biodegradable

Imidacloprid: Not rapidly biodegradable

Koc Beta-Cyfluthrin: Koc: 508 – 3179 Imidacloprid: Koc: 225

**Bioaccumulative potential:**

Bioaccumulation Beta-Cyfluthrin: Bioconcentration factor (BCF) 506

Does not bioaccumulate. Imidacloprid: Does not bioaccumulate.

**Mobility in soil**

Mobility in soil Beta-Cyfluthrin: Immobile in soil

Imidacloprid: Moderately mobile in soils





## DISPOSAL CONSIDERATION:

Metal drums and plastic containers: Triple or preferably pressure rinse containers before disposal. Add rinsings to spray tank. Do not dispose of undiluted chemicals on site. If recycling, replace cap and return clean containers to recycler or designated collection point. If not recycling, break, crush or puncture and bury empty containers in a local authority landfill. If no landfill is available, bury the containers below 500 mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Empty containers and product should not be burnt.