

Bayer CropScience Limited		MATERIAL SAFETY DATA SHEET (As per Schedule 9, Rule 17 of the Manufacture, Storage and Import of Hazardous Chemicals Rules 1989 Amendment 2003)	
RESPONSAR 25 SC			
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1. CHEMICAL IDENTITY			
1.1	PRODUCT NAME / TRADE NAME : RESPONSAR 25 SC		
1.2	CHEMICAL CLASSIFICATION	Pyrethroid	
1.3	CHEMICAL NAME	: beta-Cyfluthrin, (R,S)-alpha-Cyano-4-fluoro-3-phenoxy benzyl-(1R,S)-cis,trans-3-(2,2Dichlorovinyl)-2,2-dimethylcyclopropanecarboxylate	
1.4	SYNONYMS	:-	
1.5	FORMULA	: C₂₂H₁₈Cl₂FNO₃	M.W: 434.29
1.6	C.A.S. NO.	: 68359-37-5	
1.7	U.N. NO.	: Not dangerous goods.	
1.8	REGULATED IDENTIFICATION		
1.8.1	SHIPPING NAME CODES/LABEL	: Not dangerous goods. Not classified.	
		Hazard Classification F - Highly flammable - No Xn – Harmful - No T – Toxic - No N - Dangerous for Environment - YES	
		R-phrases: R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.	
		S-phrases: S 2 Keep out of the reach of children.	
		S 3 Keep in a cool place.	
		S13 Keep away from food, drink and animal feeding stuffs.	
		S20/21 When using, do not eat, drink or smoke.	
		S23 Do not breathe spray.	
		S45 In case of accident or if you feel unwell, seek medical advice immediately (show label where possible).	
		S49 Keep only in the original container.	
		S51 Use only in well ventilated areas.	
1.8.2	HAZCHEM NO.	: 3X	

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1.8.3 HAZARDOUS WASTE ID NO. : 29			
1.9 HAZARDOUS INGREDIENTS : beta-Cyfluthrin		C.A.S. No. 68359-37-5	% 2.5
2. PHYSICAL AND CHEMICAL DATA			
2.1 PHYSICAL STATE	:Liquid		
2.2 APPEARANCE	:Gray white suspension		
2.3 ODOUR	:Slight Original odour		
2.4 SPECIFIC GRAVITY / DENSITY (WATER = 1) (g/ml)	:ca. 1,14 g/cm ³ at 20 °C		
2.5 VAPOUR PRESSURE AT 20 °C	:Not Applicable.		
2.6 VAPOUR DENSITY (AIR=1)	:Not Applicable.		
2.7 BOILING RANGE/POINT °C	:~ 100		
2.8 MELTING/FREEZING POINT °C	:Not Applicable.		
2.9 SOLUBILITY	:miscible in Water		
2.10 pH	:4.0 to 5.0 (Undiluted)		
3. FIRE AND EXPLOSION HAZARD DATA			
3.1 FLAMMABILITY	:Not Flammable.		
3.2 FLASH POINT. (°C)	:> 100 °C DIN 51758		
3.3 AUTO - IGNITION TEMP. (°C)	:Not Applicable.		
3.4 UPPER EXPLOSION LIMIT (% BY VOLUME)	:Not Available.		
3.5 LOWER EXPLOSION LIMIT (% BY VOLUME)	:Not Available.		
3.6 TDG FLAMMABILITY	:Not Determined.		

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3.7	EXPLOSION SENSITIVITY TO IMPACT	:	Not Determined.
3.8	EXPLOSION SENSITIVITY TO STATIC ELECTRICITY	:	Not Determined.
3.9	HAZARDOUS COMBUSTION PRODUCTS	:	Not Available.
3.10	HAZARDOUS POLYMERISATION	:	Not Available.
3.11	CUMBUSTIBLE LIQUID	:	No.
3.12	EXPLOSIVE MATERIAL	:	No.
3.13	CORROSIVE MATERIAL	:	No.
3.14	FLAMMABLE MATERIAL	:	No.
3.15	OXIDISER	:	No.
3.16	PYROPHORIC MATERIAL	:	No.
3.17	ORGANIC PEROXIDE	:	No.
3.18	OTHERS	:	Not Available.
4.	REACTIVITY DATA		
4.1	CHEMICAL STABILITY	:	Stable under ambient storage conditions.
4.2	INCOMPATIBILITY WITH OTHER MATERIAL	:	Not Available.
4.3	REACTIVITY	:	Stable under normal temperatures & pressures.
4.4	HAZARDOUS REACTION PRODUCTS	:	Thermal decomposition products may include toxic oxides of nitrogen & carbon and toxic & corrosive fumes of chlorides and fluorides.
5.	HEALTH HAZARD DATA		
5.1	ROUTS OF ENTRY	:	Skin contact, Eye contact, inhalation, ingestion.
5.2	EFFECTS OF EXPOSURE / SYMPTOMS	:	Local: After skin contact: paresthesia (local), Usually transient with resolution within 24 hours. Irritant to mucous membrane. Stimulatory sensation.

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		such as burning & tingling sensation are possible after skin contact.	
		Systemic:; excitement, gastrointestinal discomfort, tremor, Dizziness, headache, listlessness, nausea and vomiting, epigastric pain, muscular fasciculation of limbs, unconsciousness, convulsions and coma (very high doses).	
5.3	EMERGENCY TREATMENT	:	
5.4	TLV (ACGIH)	:	Not Determined.
5.5	STEL	:	Not Determined.
5.6	PERMISSIBLE EXPOSURE LIMIT	:	Not Determined.
5.7	ODOUR THRESHOLD	:	Not Determined.
5.8	LD 50 (ROUTES & SPECIES)	:	Oral rat : 2500 mg/kg Dermal rat : 4000 mg/kg
	LC 50 (ROUTES & SPECIES)	:	Inhalation rat : 4.514 mg/lt. Exposure time - 4 Hours
		TOXICOLOGICAL INFORMATION	
		Carcinogenicity: Not Carcinogenic	
		Genotoxicity: Not Teratogenic and Mutagenic.	
		Reproductive Toxicity: Not Teratogenic	
		Other Information:	
		Skin irritation: Non irritant (rabbit)	
		Eye irritation: Non irritant (rabbit)	
		Sensitization: Non-sensitizing (guinea pig)OECD Test Guideline 406, Magnusson & Kligman test	
		ECOLOGICAL INFORMATION	
		Mobility: Fixed In Most Soils.	
		Persistence / Degradability: Not Available	
		Bio-Accumulation: Not Known	
		Aquatic Toxicity:	
		Fish LC50 (Rainbow trout (Oncorhynchus mykiss)) 0.068 µg/l. Exposure time: 96 h	
		Daphnia EC50 (Water flea (Daphnia magna)) 0.29 µg/l Exposure time: 48 h.	
		Algae IC50 (Desmodesmus subspicatus) > 0.01 mg/l. Growth rate Exposure time: 72 h	
		The value mentioned relates to the active ingredient.	
		No acute toxicity was observed at its limit of water solubility.	
		Other Toxicity: Not Available	

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<p>5.9 NFPA HAZARD SIGNALS :</p> <p style="padding-left: 100px;">HEALTH : 2</p> <p style="padding-left: 100px;">FLAMMABILITY : 1</p> <p style="padding-left: 100px;">REACTIVITY : 1</p> <p style="padding-left: 100px;">SPECIAL : 0</p>			
<p>6. PREVENTIVE MEASURES</p> <p>6.1 PERSONAL PROTECTIVE EQUIPMENT :</p> <p style="padding-left: 20px;">-- GLOVES : Chemical Resistant Hand gloves</p> <p style="padding-left: 20px;">-- RESPIRATORY : Full face mask with filter ABEK P3</p> <p style="padding-left: 20px;">-- EYES : Chemical safety goggles</p> <p style="padding-left: 20px;">-- FOOTWEAR : Antistatic / Conductive shoes</p> <p style="padding-left: 20px;">-- CLOTHING : Protective clothing.</p> <p style="padding-left: 20px;">-- OTHER : Head Gear</p> <p>6.2 HANDLING AND STORAGE PRECAUTIONS : Handling: Use only in area provided with appropriate local exhaust ventilation. While handling the product use all Personal Protective Equipments. While handling the product smoking, eating, drinking and chewing are strictly prohibited. Storage: Keep container tightly closed in a dry and well-ventilated place. Store in a place accessible by authorized persons only. Keep away from food, drink and animal feeding stuffs. Storage temperature < 40 °C. Do not store at temperatures below -10 °C. Suitable materials: Low density polyethylene</p>			
<p>7. EMERGENCY AND FIRST AID MEASURES</p> <p>7.1 FIRE :</p> <p>7.1.1 FIRE EXTINGUISHING MEDIA : Water spray, foam, DCP, CO₂, sand.</p>			

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7.1.2 SPECIAL PROCEDURES	: Use self contained breathing apparatus. Wear full protective suit. If possible and without risk, remove intact containers from exposure to fire. Otherwise, spray unopened containers with water to keep cool. Contain fire-fighting water by bunding area with sand or earth. Collect contaminated fire fighting water separately, must not be discharged into the drains. Do not whirl around the product. Do not breathe fumes.
7.1.3 UNUSUAL HAZARDS	:
7.2 EXPOSURE	
7.2.1 FIRST AID MEASURE	: Seek medical advice immediately and show this container or label. Eyes: Wash with large amounts of water immediately, occasionally lifting upper and lower lids, (approximately 15-20 minutes) Skin: Remove contaminated clothing and shoes immediately. wash affected area with soap and mild detergent and large amounts of water (approximately 15 - 20 minutes) Inhalation: Remove victim from exposed area to fresh air immediately. If breathing has stopped, perform artificial respiration. Keep person warm and at rest. Treat symptomatically and supportively. Get medical attention immediately. Ingestion: Rinse mouth. DO NOT induce vomiting. <i>This product/preparation contains a pyrethroid. Must NOT be confused with organophosphorus compounds!</i> Treat symptomatically and supportively after decontamination.
7.2.2 ANTIDOTE/DOSAGE	: <i>There is no antidote.</i> <i>Systemic treatment:</i> <i>Endotracheal intubation should be done and gastric lavage performed, followed by administration of charcoal.</i> <i>Monitoring of respiratory, cardiac and central nervous system.</i> <i>ECG - monitoring (Electrocardiogram)</i> <i>Early dialysis (haemoperfusion)</i> <i>Check for pulmonary oedema in event of inhalation.</i> <i>Against convulsions: Give diazepam: for adults 5-10 mg intravenously as necessary until fully</i>

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7.3 SPILLS		: sedated; for children 2.5 mg i.v. Contraindication: Atropine and derivatives of Adrenaline	
7.3.1 STEPS TO BE TAKEN		: Use Personal Protective Instruments. Avoid contact with spilled material or contaminated surfaces. If ordinary clothing becomes contaminated remove it immediately. When dealing with the spillage do not eat, drink or smoke and wear personal protective clothing. Adsorb in absorbent material (e.g. sand, earth or a proprietary absorbent material) and sweep or preferably vacuum up spillage using equipment fitted with high efficiency final filter. Avoid creating a dust. Clean the area with soap solution. Do not allow entering in drains or waterways. Transfer collected material to heavy duty plastic drums and keep safe for disposal.	
7.3.2 WASTE DISPOSAL METHOD		: Product disposal in accordance with regulations for special waste. It must be taken to special waste disposal site and should be incinerated at a suitable waste incineration plant in accordance with official regulations. Where large quantities are concerned consult the supplier. This material and its container must be disposed as a hazardous waste. Avoid release to the environment.	
8. ADDITIONAL INFORMATION REFERENCE		: BCS GLOBAL QHSE MSDS Library - SAP MSDS System - Material/UVP No. – 3119843. MSDS database BCS-Thane. - MSDS-Budock-2.5-SC-03	
9. MANUFACTURER / SUPPLIERS DATA			
9.1 NAME OF FIRM		: Bayer CropScience Limited	
9.2 MAILING ADDRESS		: 6301-10A,GIDC, Ankleshwar, (Gujarat) Pin Code: 393 002	

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9.3 TELEPHONE	: 91-2646-551007-Ankleshwar 91-22-25311030-Thane		
9.4 TELEFAX NO.	: 91-2646-551281-Ankleshwar 91-22-25455223-Thane		
9.5 E-MAIL	: rajen.salot@bayercropscience.com sadanand.dandekar@bayercropscience.com		
9.6 TELEGRAPHIC ADDRESS	:		
9.7 a) CONTACT PERSON IN EMERGENCY	: Emergency Control Center Bayer Crop Science Limited, Kolshet Road, Thane (Maharashtra State) 400 607 Telephone No. 022-25311884 022-25311885		
b) LOCAL BODIES INVOLVED	: Disaster Prevention Management Center, GIDC, Ankleshwar.		
9.8 STANDARD PACKING	: 1 lt.		
9.9 TREMCARD DETAILS / REF. NO.	: Available.		
10. DISCLAIMER	: Information contained in this Material Safety Data Sheet is believed to be reliable but no representation guarantee or warranties of any kind are made as to its accuracy, suitability for a particular application or results to be obtained from them. It is up to Manufacturer / Seller to ensure that the information contained in the Material Safety Data Sheet is relevant to the product manufactured / handled or sold by him as the case may be. The company makes no warranties expressed or implied in respect of the adequacy of this document for any particular purpose.		

Changes since the last version are highlighted in **Red Bold Italic**. This version replaces all previous versions.