Section A8 (Annex Point)

Measures to be adopted to protect man, animals and the environment

				Official use only
8.1	**Recommended methods and precautions concerning handling, use, storage, transport or fire (IIA, 8.8.1)**	**Reference:** **A8.1/01:** Anonymous (2002): Safety data sheet according to 91/155/EEC – Flocoumafen techn., BASF AG, Doc. ID: 2004/1010401, November 26, 2002.		
8.1.1	Handling	Wear cotton overalls, neoprene or nitrile rubber gloves, boots or shoes and air-supplied respirator. Handle material in fume cupboard or under exhaust ventilation. Avoid contact with the skin, eyes, nose and mouth. If clothing becomes contaminated, remove without delay and wash skin thoroughly with soap and water. Dispose of contaminated clothing to prevent re-use. Observe plant hygiene recommendations. Wash all exposed skin before eating, drinking, smoking or using the toilet. After work, change out of working clothes and take a bath or shower.		
8.1.2	Storage	Store in a secure well ventilated building away from foodstuffs or animal feed. Keep out of reach of children. Store under cool and dry conditions.		
8.1.3	Transport	UN Number: UN 3027 IATA Label-Class/Division 6.1, Group I Class/Item: 6.1/ 73 a Proper Shipping Name: UN 3027 Coumarin derivative pesticide, solid, toxic (Flocoumafen > 90%).		
8.1.4	Fire	Extinguishing media:	Use water fog, foam, dry-chemical, or carbon dioxide (CO_2)to extinguish fire.	
		Protective clothing:	Wear full fire fighting protective clothing and self-contained positive pressure breathing apparatus.	
		Special precautions:	Unburned flocoumafen may be carried in smoke from fire. Wear self-contained, positive pressure breathing apparatus and full fire fighting protective clothing. Keep unnecessary people away. Use as little water as possible. Dike area of fire to prevent material run-off. Use spray or fog – solid stream may cause spreading. Do not decontaminate personnel or equipment, or handle broken packages or containers without protective equipment as specified in Section 8.1.1. Decontaminate emergency personnel with soap and water before leaving the fire area. Avoid breathing dusts, vapors and fumes from burning materials. Control run-off water – if water enters a drainage system, advise the authorities downstream.	

Section A8 (Annex Point) — Measures to be adopted to protect man, animals and the environment

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8.2	**In case of fire, nature of reaction products, combustion gases, etc. (IIA, 8.8.2)**	No hazardous decomposition products are known (see MSDS).	
8.3	**Emergency measures in case of an accident (IIA, 8.8.3)**		
8.3.1	Protection of emergency workers and bystanders	Keep unnecessary people away. Emergency workers should wear self-contained, positive pressure breathing apparatus and full fire protective clothing, if a fire. Otherwise, protective eyewear is required if respiratory protection does not provide eye protection. Protective clothing: gloves impermeable to water, mineral oil and organic solvents. Long-sleeved shirt, pants and work boots.	
8.3.2	Accidental release measures	Evacuate the immediate area to ensure unprotected personnel are not exposed to the spill. Do not handle broken packages or containers without personal protective equipment as shown under Section 8.1.1. Keep away from drains, surface and ground water, and soil. Dike spill area to prevent spill from spreading. Absorb the spilled material with an inert absorbent such as granular clay or sawdust. Shovel or sweep up carefully and place in a suitable container for disposal (see Section 8.4). Rinse the spill area and any tools or implements several times with soapy water. Contain and absorb this rinsate with inert absorbents and place into the same disposal container as the spilled material. Small spills to the soil may be shoveled directly into a covered container for disposal. In the event of a large spill, call BASF at 49-621-60-43333 (Germany) or 1-800-832-HELP (U.S.A.) for guidance on available clean-up options. Depending on the amount released to the environment, it may be necessary to notify regulatory authorities. If the spill occurred to a body of water, immediately notify the appropriate authorities downstream of the spill so that they can decide if any further action is needed.	

Section A8 (Annex Point) — Measures to be adopted to protect man, animals and the environment

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8.3.3	First aid measures	*If on skin*: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15 – 20 minutes. Call a physician or poison control centre for treatment advice. *If in eyes*: Hold eye open and rinse slowly and gently with water for 15 – 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a physician or poison control centre for treatment advice. *If swallowed*: DO NOT DELAY. DO NOT INDUCE VOMITING. Call a poison control centre and/ or physician and get medical attention immediately. Wash out mouth with potable water provided the person is conscious and able. *If inhaled*: DO NOT DELAY. Remove to fresh air and away from exposure immediately. Use a bag valve mask or similar device to perform artificial respiration (rescue breathing), if needed. Get medical attention. ANTIDOTE: Vitamin K1 (phytonadione). Neither Vitamin K3 (menadione) nor Vitamin K4 (menadiol) is an antidote. *Medical condition aggravated by overexposure*: Increased tendency to bleed. In severe cases, massive bleeding from internal organs may result in circulatory shock, which could prove fatal. The onset of symptoms are delayed for up to 4 days after uptake. *Note to physicians*: STORM is an anti-coagulant rodenticide with a coumarin-type mode of action. Vitamin K1 is the emergency antidote. Whereas Vitamin K3 (menadione) and its derivatives have been implicated in producing haemolysis in G6PD deficient patients, Vitamin K1 therapy has not. If ingestion has occurred recently (less than 4 hours), gastric decontamination should be carried out. The prothrombin time (PT) indicates whether an increased bleeding tendency is related to clotting factor deficiency and should be checked initially, at 24 hours, and at 48 hours after exposure. MILD CASES: Oral administration of Vitamin K1 protects against the anticoagulant effect within a few hours. (For adults, give 10 mg Vitamin K1 orally, 4 times a day, check response to therapy daily). If PT has stabilized within normal limits for 3 days, reduce dose to 10 mg twice a day. Continued treatment may be required for a period of a least 60 days. SEVERE CASES: Immediately administer Vitamin K1 10 to 20 mg slowly, intravenously, diluted in saline or glucose solution. Check response to therapy after 3 hours. If PT has not been reduced, give another 10 to 20 mg Vitamin K1 intravenously. Doses in excess of 40 mg Vitamin K1 may be necessary. Adverse reactions, some fatal, have occurred from intravenous phytonadione injections. The doses are less for children. If PT starts to decrease give 10 mg Vitamin K1 orally 4 times a day and continue as for mild cases above. Treatment should be continued under the guidance of the various blood clotting tests and may last for several months. If the effect of Vitamin K1 cannot be awaited, the following options should be considered along with phytonadione therapy: 1. Compatible fresh blood, 2. Blood plasma (cryosupernatant or fresh frozen), 3. Prothrombin complex concentrates.	

Section A8 (Annex Point) — Measures to be adopted to protect man, animals and the environment

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		Note to veterinarians: Clinical signs are unlikely to occur until a few days after ingestion of STORM, rapidly becoming more pronounced with time. The clinical signs of intoxication associated with poisoning by STORM include pale gums, lethargy, bleeding from the nose or gums, laboured breathing and dark or bloody stools. Animals exhibiting advanced clinical signs of intoxication should be treated with fresh whole blood transfusion (10-15 mL/kg), accompanied by parenteral, subcutaneous or intramuscular administration of vitamin K1 (2-5 mg/kg bw/day). Where transfusion is not undertaken, a reduced dose of vitamin K1 can be administered intravenously. The parenteral administration of vitamin K1 should be continued for up to two weeks until clinical tests indicate recovery. Thereafter oral doses of vitamin K1 are recommended for a further period of up to four weeks. For animals exhibiting early signs of intoxication parenteral administration with vitamin K1 (2-5 mg/kg bw/day) for at least a week is recommended, followed by oral administration for further four weeks.	
8.4	**Possibility of destruction or decontamination following release to: (IIA, 8.8.4)**		
	a) Air	Not relevant due to limited volatility.	
	b) Water	**Reference:** **A8.4/01:** Sxxxx Wxxxx (2002) Possible procedures for the decontamination of water from Flocumafen. Bxxxx, Lxxxx, Gxxxx, Unnumbered report, January 2002 (unpublished). Flocoumafen has been judged as efficiently adsorbed onto activated carbon under neutral pH conditions. In case of contamination of water, the aqueous phase is to be collected and the undissolved amount of product has to be separated by filtration or centrifugation or by extraction with a suitable solvent. The separated solid or the organic phase should be incinerated, too. All actions should be carried out under special precaution measures wearing protecting clothes, respirators, safety goggles and safety gloves. The remaining aqueous phase has to be treated with approximately 1 g/l activated carbon for at least 2 hours by extensive stirring. The separated activated carbon should be incinerated. The treated water (pH 6.5 – 9) is to be introduced into a public sewer leading to a public owned wastewater treatment plant. Small amounts of contaminated water can be as well sucked off by means of combustable adsorbents like sawdust, which must be incinerated in a proper manner. The contaminated area has to be purified with detergent-containing water, which is discharged into the public sewer.	

Section A8 (Annex Point) — Measures to be adopted to protect man, animals and the environment

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	c) Soil	Dike spill area to prevent spill from spreading. Absorb the spilled material with inert absorbent such as granular clay or sawdust. Shovel or sweep up carefully and place in suitable container for disposal. Rinse the spill area and any tools or implements several times with soapy water. Contain and absorb this rinsate with inert absorbents and place into same disposal container as the spilled material. Small spills to the soil may be shovelled directly into a covered container for disposal. In the event of a large spill, call BASF at 49-621-60-43333 (Germany) or 1-800-832-HELP (U.S.A.) for guidance on available clean-up options.	
8.5	**Procedures for waste management of the active substance for industry and professional users (IIA, 8.8.5)**	To avoid disposal, all attempts should be made to use this product completely, in accordance with its intended use. If this is not possible, handle with care and dispose in a safe manner. Empty containers or liners may retain some product residues. DO NOT REUSE. Rinse the container or liner as needed for disposal. Render it unusable by crushing or puncturing. Dispose of the container and any rinsate in a safe manner. Follow all applicable community, national or regional regulations regarding waste management methods. It is the ultimate responsibility of the waste generator to determine at the time of disposal whether this product and/or "empty" container residue meets any hazardous waste criteria.	
8.5.1	Possibility of re-use or recycling (IIA, 8.8.5.1)	Re-use or recycling is not recommended.	
8.5.2	Possibility of neutralisation of effects (IIA, 8.8.5.2)	Not appropriate; the substance is neither acid nor alkaline and does therefore not require neutralisation.	
8.5.3	Conditions for controlled discharge including leachate qualities on disposal (IIA, 8.8.5.3)	Follow all applicable community, national or regional regulations regarding waste management methods. It is the ultimate responsibility of the waste generator to determine at the time of disposal whether this product and/or "empty" container residue meets any hazardous waste criteria.	
8.5.4	Conditions for controlled incineration (IIA, 8.8.5.4)	Recommended incineration conditions are approx. 1100 °C and a residence time of approx. 2 seconds.	
8.6	**Observations on undesirable or unintended side-effects, for example, on beneficial and other non-target organisms (IIA, 8.8.6)**	No cases of observations on undesirable or unintended side-effects of Flocoumafen are known to the applicant.	

Section A8 (Annex Point) — Measures to be adopted to protect man, animals and the environment

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8.7	**Identification of any substances falling within the scope of List I or II of the Annex to Directive 80/68/EEC (IIIA, 8.1)**	Pure flocoumafen contains three organohalogen compounds as summarised in Appendix 1 to Document III-A (confidential information) as impurities which fall within the scope of List I of the Annex to Directive 80/68/EEC.	

Evaluation by Competent Authorities	
Use separate "evaluation boxes" to provide transparency as to the comments and views submitted	
	EVALUATION BY RAPPORTEUR MEMBER STATE (*)
Date	2 October 2005
Conclusion	No comments.
Reliability	Not applicable.
Acceptability	Not applicable.
Remarks	None
	COMMENTS FROM ...
Date	
Materials and Methods	
Results and discussion	
Conclusion	
Reliability	
Acceptability	
Remarks	