



# MATERIAL SAFETY DATA SHEET

## STORM

**Date Issued:** May 2011 and is valid for 3 years from this date.

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### 1. PRODUCT AND COMPANY IDENTIFICATION

**TRADE NAME:** STORM

**SUPPLIER:** EFEKTO

PO BOX 652147

BENMORE

2010

**TEL No.** 011 287 5700

**EMERGENCY TELEPHONE NUMBERS:**

**SPILLAGES:** 083 1233 911

**Fax:** 086 685 3129

**POISONINGS:**

**National Poison Centre** 021-9386084 (office hours).

021-9316129 (after hours).

082 446 8946

**Use:** A ready-to-use rodenticide/bio-cide for the control rodents.

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### 2. HAZARDS IDENTIFICATION

No specific dangers known, if the regulations/notes for storage and handling are considered.

**Likely routes of exposure:**

Skin and eye contact, ingestion and inhalation.

**Flocoumafen:**

**Hazard symbol(s):** T+, N

**R-phrase(s):** 26/27/28, 48/23/24/25, 50/53

**alpha-Cypermethrin:**

**Hazard symbol(s):** T, N

**R-phrase(s):** 20, 25, 37/38, 48/22, 50/53

The wording of the hazard symbols and R-phrases is specified in chapter 16 if dangerous ingredients are mentioned.

**UN No.:** Not regulated.

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### 3. COMPOSITION/INFORMATION ON INGREDIENTS



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### Active ingredients:

Active ingredients.	CAS No.:	EC No.:
Flocoumafen 0.005 %	90035-08-8	421-960-0
Alpha-Cypermethrin 0.0002 %	67375-30-8	-

### Chemical Name:

**Flocoumafen:** 4-hydroxy-3-[(1R,3RS;1RS,3SR)-1,2,3,4-tetrahydro-3-[4-(4-trifluoromethylbenzyloxy)phenyl]1-naphthyl]coumarin (mixture of cis- to trans-isomers in the ratio range 60:40 to 40:60 respectively)IUPAC

**Alpha-Cypermethrin:** racemate comprising (R)- $\alpha$ -cyano-3-phenoxybenzyl (1S,3S)-3-(2,2-dichlorovinyl)-2,2-dimethylcyclopropanecarboxylate and (S)- $\alpha$ -cyano-3-phenoxybenzyl (1R,3R)-3-(2,2-dichlorovinyl)-2,2-dimethylcyclopropanecarboxylate

### Chemical Family:

**Flocoumafen:** Coumarin derivative.

**Alpha-Cypermethrin:** Pyrethroid

### Chemical Formula:

**Flocoumafen:**  $C_{33}H_{25}F_3O_4$

**Alpha-Cypermethrin:**  $C_{22}H_{19}Cl_2NO_3$

### NIOSH/RTECS No.:

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## 4. FIRST-AID MEASURES

### General advice:

Avoid contact with the skin, eyes and clothing. Remove contaminated clothing. If difficulties occur: Obtain medical attention. Show container, label and/or safety data sheet to physician.

### If inhaled:

Keep patient calm, remove to fresh air, seek medical attention.

### On skin contact:

After contact with skin, wash immediately with plenty of water and soap. If irritation develops, seek medical attention.

### On contact with eyes:

Immediately wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

### On ingestion:

Immediately rinse mouth and then drink plenty of water, do not induce vomiting, seek medical attention.

### Note to physician:

**Symptoms:** tiredness, loss of appetite, coagulation disorders

**Treatment:** Symptomatic treatment (decontamination, vital functions).

**Antidote:** Vitamin K1 preparation as antidote.

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## 5. FIRE-FIGHTING MEASURES



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**Suitable extinguishing media:**

Use dry extinguishing media, foam, water spray, water fog

**Unsuitable extinguishing media for safety reasons:** water jet

**Specific hazards:**

Carbon monoxide, hydrogen fluoride, nitrogen oxides. The substances/groups of substances mentioned can be released in case of fire.

**Special protective equipment:**

Wear self-contained breathing apparatus and chemical-protective clothing.

**Further information:**

In case of fire and/or explosion do not breathe fumes. Keep containers cool by spraying with water if exposed to fire. Collect contaminated extinguishing water separately, do not allow to reach sewage or effluent systems. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

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### 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions:**

Use personal protective clothing. Avoid contact with skin and eyes.

**Environmental precautions:**

Do not discharge into drains/surface waters/groundwater. Do not discharge into the subsoil/soil.

**Methods for cleaning up or taking up:**

**For small amounts:** Sweep/shovel up.

**For large amounts:** Sweep/shovel up.

Dispose of absorbed material in accordance with regulations. Collect waste in suitable containers, which can be labeled and sealed. Avoid raising dust. Clean contaminated floors and objects thoroughly with water and detergents, observing environmental regulations.

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### 7. HANDLING AND STORAGE

**Handling:**

No special measures necessary if stored and handled correctly. If dead and/or dying rats or mice are found during and after the control program, these must be cleared away immediately in order to avoid secondary poisoning phenomena.

**Protection against fire and explosion:**

Dust can form an explosive mixture with air. Avoid dust formation. Avoid deposition of dust. Prevent electrostatic charge - sources of ignition should be kept well clear - fire extinguishers should be kept handy.

**Storage:**

Segregate from foods and animal feeds.

Further information on storage conditions: Keep locked-up and out of reach of children. Keep in a cool, well-ventilated place. Keep away from heat. Protect against moisture. Protect from direct sunlight.

**Storage stability:**

**Storage duration:** 24 Months

Protect from temperatures above: 30 °C

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### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Personal protective equipment

##### Respiratory protection:

Breathing protection if breathable aerosols/dust are formed. Particle filter EN 143 Type P2, medium efficiency, (solid and liquid particles of harmful substances).

##### Hand protection:

Suitable chemical resistant safety gloves (EN 374) also with prolonged, direct contact

**(Recommended:** Protective index 6, corresponding > 480 minutes of permeation time according to EN 374): E.g. nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), polyvinylchloride (0.7 mm) and Other.

##### Eye protection:

Tightly fitting safety goggles (splash goggles) (EN 166)

##### Body protection:

Body protection must be chosen depending on activity and possible exposure, e.g. apron, protecting boots, chemical-protection suit (according to DIN-EN 465).

##### General safety and hygiene measures:

Avoid contact with the skin, eyes and clothing. Wearing of closed work clothing is recommended.

Store work clothing separately. Remove contaminated clothing immediately and dispose of safely.

Keep away from food, drink and animal feeding stuffs. No eating, drinking, smoking or snuff-taking at the place of work. Hands and/or face should be washed before breaks and at the end of the shift.

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### 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance:</b>	Solid, Blocks.
<b>Colour:</b>	Blue
<b>Odour:</b>	Slight odour, paraffin-like.
<b>Ignition temperature:</b>	235 °C
<b>Bulk density:</b>	0,60 - 0,68 kg/dm <sup>3</sup>
<b>Solubility in water:</b>	Insoluble.

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### 10. STABILITY AND REACTIVITY

**Thermal decomposition:** No decomposition if stored and handled as prescribed/indicated.

#### Substances to avoid:

No substances known that should be avoided.

#### Hazardous reactions:

No hazardous reactions if stored and handled as prescribed/indicated.

**Hazardous decomposition products:** No hazardous decomposition products if stored and handled as



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prescribed/indicated.

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### 11. TOXICOLOGICAL INFORMATION

**LD<sub>50</sub>/oral/rat/male/female:** > 5.000 mg/kg

**LD<sub>50</sub>/dermal/rat/male/female:** > 10.000 mg/kg

**Information on: Flocoumafen:**

Experimental/calculated data:

LC<sub>50</sub> rat (by inhalation): 0.0008 - 0.007 mg/l 4 h

**Information on: alpha-cypermethrin:**

Experimental/calculated data:

LC<sub>50</sub> rat (by inhalation): 1.33 mg/l 4 h (OECD Guideline 403)

Tested as dust aerosol.

**Irritation**

Experimental/calculated data:

**Skin corrosion/irritation rabbit:** Non-irritant

**Serious eyes damages/irritation rabbit:** Non-irritant

**Respiratory/Skin sensitization:**

Experimental/calculated data: modified Buehler test guinea pig: Skin sensitizing effects were not observed in animal studies.

**Other relevant toxicity information:**

Misuse can be harmful to health.

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### 12. ECOLOGICAL INFORMATION

**Ecotoxicity:**

**Toxicity to fish:**

LC<sub>50</sub> (96 h) > 4,000 mg/l, *Oncorhynchus mykiss*

The product has not been tested. The statement has been derived from products of a similar structure and composition.

**Aquatic invertebrates:**

EC<sub>50</sub> (48 h) 280 mg/l, *Daphnia magna*

The product has not been tested. The statement has been derived from products of a similar structure and composition.

**Information on: Flocoumafen:**

Toxicity to fish:

LC<sub>50</sub> (96 h) 0.071 mg/l, *Oncorhynchus mykiss*

LC<sub>50</sub> (96 h) 0.112 mg/l, *Lepomis macrochirus*

**Information on: alpha-cypermethrin:**

**Toxicity to fish:**

LC<sub>50</sub> (96 h) 2,8 µg/l, *Oncorhynchus mykiss* (OECD 203; ISO 7346; 84/449/EEC, C.1)



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**Information on: Flocoumafen:**

**Aquatic invertebrates:**

EC<sub>50</sub> (48 h) 0.17 mg/l, Daphnia magna

**Information on: alpha-cypermethrin:**

**Aquatic invertebrates:**

EC<sub>50</sub> (48 h) 0,3 µg/l, Daphnia magna (OECD Guideline 202, part 1)

**Information on: Flocoumafen:**

**Aquatic plants:**

EC<sub>50</sub> (72 h) >= 18.2 mg/l, Pseudokirchneriella subcapitata

Information on: alpha-cypermethrine

**Aquatic plants:**

EC<sub>50</sub> (96 h) > 100 µg/l, Scenedesmus subspicatus (OECD Guideline 201)

**Persistence and degradability:**

**Information on: Flocoumafen:**

Assessment biodegradation and elimination (H<sub>2</sub>O):

Not readily biodegradable (by OECD criteria)

**Information on: alpha-cypermethrin:**

Assessment biodegradation and elimination (H<sub>2</sub>O):

Not readily biodegradable (by OECD criteria).

**Additional information:**

**Other ecotoxicological advice:**

Do not discharge product into the environment without control.

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### 13. DISPOSAL CONSIDERATIONS

**Product:**

Must be dumped or incinerated in accordance with local regulations.

Following completion of the control programme, any bait which has not been taken must be collected and disposed of.

**Contaminated packaging:**

Contaminated packaging should be emptied as far as possible and disposed of in the same manner as the substance/product.

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### 14. TRANSPORT INFORMATION

**UN NUMBER:** Not regulated

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### 15. REGULATORY INFORMATION

**Self classification:**

**Symbol:** None

**Risk phrase(s):** None

**Safety phrases:**

**S2** Keep out of the reach of children.



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**S13** Keep away from food, drink and animal feeding stuffs.

**S20/21** When using do not eat, drink or smoke.

**S35** This material and its container must be disposed of in a safe way.

**S57** Use appropriate container to avoid environmental contamination.

**National Legislation:**

In accordance with the South African National Road Traffic Act, 1996 (Act 93 of 1996), the Fire Brigade Act, 1987 (Act 99 of 1987) and the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993).

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### 16. OTHER INFORMATION

**Compiled by:** Danie Fourie

**Regulatory information:**

Full text of hazard symbols and R-phrases if mentioned as hazardous components in chapter 3:

T+ Very toxic.

N Dangerous for the environment.

T Toxic.

26/27/28 Very toxic by inhalation, in contact with skin and if swallowed.

48/23/24/25 Toxic: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed.

50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

20 Harmful by inhalation.

25 Toxic if swallowed.

37/38 Irritating to respiratory system and skin.

48/22 Harmful: danger of serious damage to health by prolonged exposure if swallowed.

All information and instructions provided in this Material Safety Data Sheet (MSDS) are based on the current state of scientific and technical knowledge at the date indicated on the present MSDS and are presented in good faith and believed to be correct. This information applies to the PRODUCT AS SUCH. In case of new formulations or mixes, it is necessary to ascertain that a new danger will not appear.

It is the responsibility of persons in receipt of this MSDS to ensure that the information contained herein is properly read and understood by all people who may use, handle, dispose or in any way come in contact with the product. If the recipient subsequently produces formulations(s) containing this product, it is the recipients sole responsibility to ensure the transfer of all relevant information from this MSDS to their own MSDS.

### REFERENCES

- BASF Storm Secure MSDS.[01.09.2009]
- ADR 2011, Part 3.
- IMDG Code, 2005 Edition, Vol. 2.
- IATA Dangerous goods regulations, Effective 1 January 2011

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**END OF MSDS.**