Safety Data Sheet

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Version No. : 1

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Name of product : **Amisulbrom 20 SC**
Other names : NC-224 200 g/l Suspension Concentrate, NC-224 20SC, LEIMAY, LEIMAY 20SC, SHINKON, CANVAS
Formulation code : NC-224 20 SC 03
Type of formulation : Suspension concentrate (SC)

1.2 Relevant identified uses of the substance or mixture and uses advised against

Function : Plant protection product, Fungicide

1.3. Details of the supplier of the safety data sheet

Manufacturer and Supplier: Nissan Chemical Corporation
5-1, Nihonbashi 2-chome, Chuo-ku, Tokyo 103-6119, Japan
Contact person: Mr. Koji Usuda
Phone: +81-(0)-3-4463-8310, Fax: +81-(0)-3-4463-8331

1.4. Emergency telephone number

Nissan Chemical Corporation: +81-(0)-3-4463-8310 (available only during office hours)

2. HAZARD IDENTIFICATION

2.1. Classification of the substance or mixture

Classification in accordance with Globally Harmonization System (GHS)

Aquatic Acute 1, H400
Aquatic Chronic 1, H410

2.2. Label elements

Labelling according to GHS

Hazard Pictogram:

Signal Word:
Warning

Hazard Statement:
H400: Very toxic to aquatic life
H410: Very toxic to aquatic life with long lasting effects

Precautionary Statement:
P273: Avoid release to the environment
P391: Collect spillage
P501: Dispose of contents/container in accordance with local regulation

2.3. Other hazards

The product will be regarded to be neither PBT nor vPvB.

3. COMPOSITION/INFORMATION OF INGREDIENTS

Substance or mixture: Mixture

Chemical Composition:

Amisulbrom .....20 % w/v
Water .....> 50 % w/v
Surfactant and others inert ingredients .....< 30 % w/v

Active Ingredient

Common Name : Amisulbrom
Code No. : NC-224
CAS No. : 348635-87-0
Chemical Name (CA) : 3-[(3-bromo-6-fluoro-2-methy-1*H*-indol-1-yl)sulfonyl]-*N,N*-dimethyl-1*H*-1,2,4-triazole-1-sulfonamide
(IUPAC) : 3-(3-bromo-6-fluoro-2-methylindol-1-ylsulfonyl)-N,N-dimethyl-*1H*-1,2,4-triazole-1-sulfonamide
Classification in accordance with GHS:
Acute Toxicity Category 4, Aquatic Acute 1, Aquatic Chronic 1
H332, H400, H410

Inert Ingredient 1

Chemical Name : Alkylpolyglucoside
CAS No. : Not disclosed
Content : < 20% w/w
Classification in accordance with GHS:
Eye Dam. 1
H318

4. FIRST AID MEASURES

4.1. Description of first aid measures

Eye contact : Immediately rinse with running water for at least 15 minutes. Seek medical advice.

Skin contact : Remove all contaminated clothing, shoes and socks from the affected area. Wash material off the skin in flowing water or shower with soap. If irritation persists, consult a physician immediately.

Inhalation : If respiratory discomfort occurs, move the person to fresh air. If not breathing, give mouth-to-mouth resuscitation (or an artificial respiration). Keep warm with blanket and keep at rest. Seek emergency medical advice.

Ingestion : Do not induce vomiting. Wash out mouth with water. Do not given anything by mouth if person is unconscious. Seek emergency medical advice.

4.2. Most important symptoms and effects, both acute and delayed

No symptoms have been identified in humans to date.

4.3. Indication of any immediate medical attention and special treatment needed

Treat based on judgment by physician in response to symptoms of patient. No specific antidotes are known.

5. FIRE-FIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media : Water, foam, dry chemicals or carbon dioxide.

Extinguishing media which shall not be used for safety reasons : High volume water jet.

5.2. Special hazards arising from the substance or mixture

Carbon dioxide, carbon monoxide, halogenated compounds and oxides of nitrogen and sulfur are potential thermal decomposed products.

5.3. Advice for firefighters

In the event of fire and/or explosion do not breathe fumes. Use self-contained breathing apparatus and protective clothing

Remove product from areas of fire, or otherwise cool containers with water in order to avoid pressure being built up due to heat.

6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Wear suitable protective clothing, shoes, gloves and goggles. Avoid contact with spilled product or contaminated surfaces. When dealing with a spillage do not eat, drink or smoke.

6.2. Environmental precautions

Keep unauthorized persons, children and animals away from the affected area. Prevent spillage from entering the drainage systems or watercourses.

6.3. Methods and material for containment and cleaning up

Carefully sweep up and collect the spilled material using an inert absorbent material (sand, vermiculite, or sawdust) and place in a closed container (drum) for disposal. Remove (large quantities) with vacuum truck. Do not raise dust. Wash affected area with water containing detergent.

6.4. Reference to other sections

See section 8 for personnel protective equipment.
See section 13 for waste disposal.

7. HANDLING AND STORAGE

7.1. Precautions for safe handling

No specific precautions required when handling unopened packs/containers. Avoid contact with skin or eyes. Protect containers against physical damage. Wear suitable protective clothing, shoes, gloves and goggle during handling. Do not eat, drink, or smoke during the work. Prevent spillage from entering the drainage systems or watercourses.

7.2. Conditions for safe storage, including any incompatibilities

Keep tightly closed in original labeled container. Store in a cool and dry place and protect from direct sunlight. Keep away from the reach of children. Keep away from foods, drinks and animal feeding stuffs.

7.3. Specific end use(s)

Use this product only for plant protection.

8. EXPOSURE CONTROL/PERSONAL PROTECTION

8.1. Control parameters

Exposure limit values (DNEL, PNEC) : Not established.

8.2. Exposure controls

Exposure controls

Occupational exposure controls

Respiratory protection	:	Particle filter with medium efficiency for solid and liquid particles
Hand protection	:	Chemical resistant gloves, Rubber gloves
Eye protection	:	Safety glasses or goggles
Skin protection	:	Impervious clothing such as gloves, apron or PVC boots
Environmental exposure controls	:	Prevent spillage from entering the drainage systems or watercourses.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance	:	Off white, opaque liquid
Odour	:	Odourless
pH	:	8.1 in distilled water (1% w/v suspension)
Melting point/melting range	:	Not required
Boiling point/boiling range	:	Approximately 102°C
Flash point	:	None determinable; no flash point observed
Evaporation rate	:	Not available
Flammability	:	Not applicable. The preparation is a liquid, not a solid or gas.
Explosive properties	:	Not explosive
Oxidising properties	:	Not oxidising
Vapor pressure	:	1.8×10^{-8} Pa at 25°C (amisulbrom)
Relative density	:	1.13
Solubility	:	Toluene 88.6 g/L, Methanol 10.1 g/L at 20°C (amisulbrom)
Water solubility	:	0.11 mg/l at 20°C (amisulbrom)
Partition coefficient (n-octanol/water)	:	Log Pow (n-octanol/water) = 4.4 (amisulbrom)
Viscosity	:	120 to 3000 mPa.s at 20°C, 50 to 2000 mPa.s at 40°C
Vapor density	:	Not available
Auto-ignition temperature	:	Not self-igniting below 400°C
Decomposition temperature	:	Not available.

9.2. Other information

No other information is available.

10. STABILITY AND REACTIVITY

10.1. Reactivity

May react with strong bases, acids or strong oxidizing agents, such as chlorates, nitrates, peroxides.

10.2. Chemical stability

Stable under normal ambient storage conditions.

10.3. Possibility of hazardous reactions

Hazardous reactions will not occur.

10.4. Conditions to avoid

Avoid high temperatures. Protect from sunlight, open flame, sources of heat and humidity.

10.5. Incompatible materials

May react with strong bases, acids or strong oxidizing agents, such as chlorates, nitrates, peroxides.

10. STABILITY AND REACTIVITY (continued)

10.6. Hazardous decomposition products

None hazardous decomposition products under normal conditions of storage and use. Thermal decomposition products include carbon monoxide, sulfur oxides and halogenated compounds.

11. TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Product

Acute oral toxicity	:	LD_{50} (rats)	>5000 mg/kg
Acute dermal toxicity	:	LD_{50} (rats)	>5000 mg/kg
Acute inhalation toxicity	:	LC_{50} (rats)	>6.43 mg/l (4 hrs.)
Eye irritation	:	(rabbits)	Not irritant
Skin irritation	:	(rabbits)	Not irritant
Sensitization	:	(guinea pigs)	Not a sensitizer

Amisulbrom active ingredient

Toxicokinetics, metabolism and distribution	:	Rapidly absorbed (C_{max}2-6 hr). 50% oral absorption based on biliary and urinary excretion. Rapidly distributed but, no evidence for accumulation.	
Short-term oral toxicity (90 days)	:	NOAEL (rats)	171/587 mg/kg/day (M/F)
Short-term oral toxicity (1 year)	:	NOAEL (dogs)	100 mg/kg/day
Short-term dermal toxicity (21 days)	:	NOAEL (rats)	300/1000 mg/kg/day (M/F)
Chronic (1 years)	:	NOEL (rats)	11.1/14.3 mg/kg/day
Carcinogenicity (2 years)	:	NOEL (rats)	96/129 mg/kg/day (M/F). Not carcinogenic
Reproductive toxicity	:	NOAEL (rats)	1200/261 mg/kg/day (Reproduction, M/F) No effects on reproduction
Developmental toxicity	:	NOEL (rabbits)	300 mg/kg/day. Not teratogenic
Mutagenicity	:	Not mutagenic	(Negative in *in vitro* & *in vivo* studies)

12. ECOLOGICAL INFORMATION

12.1 Ecotoxicity

Product

Toxicity to fish	:	LC_{50} (96 h, *Cyprinus carpio*)	1900 µg as/l
Toxicity to *Daphnia*	:	EC_{50} (48 h, *Daphnia magna*)	44 µg as/l
Toxicity to algae	:	E_bC_{50} (96 h, *P. subcapitata*)	42 µg as/l
Toxicity to bees	:	LD_{50} (Oral/Contact, 48h, *Apis mellifera*)	>100 µg/bee

Product

Toxicity to earthworm	:	LC_{50} (14-day)	>1000 ppm

Amisulbrom active ingredient

Toxicity to bird	:	LD_{50} (Bobwhite quail and Mallard duck) >2000 mg/kg
Toxicity to bees	:	LD_{50} (Oral/Contact, 48h, *Apis mellifera*) >100 µg/bee
Toxicity to earthworm	:	LC_{50} (14 days, *Eisenia foetidat*) >1000 mg/kg of soil
Soil micro-organism	:	No long-term influence on nitrogen and carbon transformation (<25% effect)
Sewage treatment	:	No inhibitory effect

12.2. Persistence and degradability

Product

Field studies with the product in 5 locations in EU indicate that mean DT_{50} was 6.9 days.

12. ECOLOGICAL INFORMATION (continued)

Amisulbrom active ingredient

Amisulbrom is hydrolytically degraded, especially rapidly under alkaline condition. Amisulbrom is readily degraded in soils and water/sediment systems.

Hydrolysis (20°C)	:	DT_{50}	163 days (pH 4)
			140 days (pH 7)
			16 days (pH 9)
Aqueous photolysis (25°C)	:	DT_{50}	6.1 hours (pH 4, xenon arc lamp)
Degradation in soil (20°C)	:	DT_{50}	60 days (Geometric mean)
Ready biodegradability	:	Not readily biodegradable	

12.3. Bioaccumulative potential

Product

No information is available for the product.

Amisulbrom active ingredient

The potential of the active ingredient to accumulate in biota and pass through the food chain is considered to be low based on the BCF and a rapid degradation of the substance.

Partition coefficient (n-octanol/water)	:	log Pow	4.4
Bioconcentration	:	BCF	176

12.4. Mobility in soil

Product

No information is available for the product.

Amisulbrom active ingredient

Amisulbrom is considered not to leach into ground water.

Adsorption/desorption : Amisulbrom $K_f^{abs}{}_{oc}$: 8156-44231 (immobile class)

12.5. Results of PBT and vPvB assessment

Product

No information is available for the product, but it will be regarded to be neither PBT nor vPvB based on the data of the active ingredient.

Amisulbrom active ingredient

Based on the values of DT_{50} in soil and BCF of the active ingredient, it is considered to be neither PBT nor vPvB.

12.6. Other adverse effects

Not available.

13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Do not contaminate water, foodstuffs, feed or seed by disposal.

PRODUCT DISPOSAL

Wastes resulting from the use of this product that cannot be used or chemically reprocessed should be disposed of in a landfill approved for pesticide disposal or burned in incinerator in accordance with all applicable regulations.

CONTAINER DISPOSAL

Completely empty container by shaking and tapping sides and bottom to loosen clinging particles. Do not reuse container. Triple rinse container, then puncture and dispose of by incineration in accordance with all applicable regulations.

14. TRANSPORT INFORMATION

14.1. UN number
3082

14.2. UN proper shipping name
Environmentally hazardous substance, liquid, n.o.s. (amisulbrom)

14.3. Transport hazard class(es)
Class 9

14.4. Packing group
Packing Group III

14.5. Environmental hazards
Marine Pollutant Label : Marine Pollutant

14.6. Special precautions for user
No special precautions available.

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
No bulk transportation intended.

14.8. Supplemental information

IMDG

UN no.	:	3082
Class	:	9
Packing group	:	III
EmS	:	F-A, S-F

IMDG (continued)

Hazard label	:	Miscellaneous (S)
Marine pollutant label	:	Marine pollutant
Proper shipping name	:	Environmentally hazardous substance, liquid, n.o.s. (amisulbrom)

ICAO/IATA

UN no.	:	3082
Class	:	9
Packing group	:	III
Proper shipping name	:	Environmentally hazardous substance, liquid, n.o.s. (amisulbrom)

ADR/RID

UN no.	:	3082
Class	:	9
Packing group	:	III
Proper shipping name	:	Environmentally hazardous substance, liquid, n.o.s. (amisulbrom)

ADN/ADNR

UN no.	:	3082
Class	:	9
Packing group	:	III
Proper shipping name	:	Environmentally hazardous substance, liquid, n.o.s. (amisulbrom)

15. REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

EU

The product is regulated under the EU Directive(s) or Regulation(s) on plant protection products since it is one of plant protection products.

Further Information

WHO Classification : III (Slightly hazardous)

JAPAN This product for use of pesticides is controlled under Agricultural Chemicals Regulation Law. Not classified under Poisonous and Deleterious Substances Control Law

15.2. Chemical safety assessment

The chemical safety assessment has not been carried out for this product yet.

16. OTHER INFORMATION

Text of relevant hazard statements, precautionary statements, risk phrases and safety phrases mentioned in section 2:

Hazard Statement:
H318 Causes serious eye damage.
H332 Harmful if inhaled.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
H412 Harmful to aquatic life with long lasting effects.

Precautionary Statement:
P273: Avoid release to the environment
P391: Collect spillage
P501: Dispose of contents/container in accordance with local regulation

Version	Changes	Date
Version 1	First version	July 2, 2018

This Safety Data Sheet is prepared in accordance with **Globally Harmonized System of Classification and Labeling of Chemicals (GHS), 7th revised edition.**

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