RUFAST E-FLO



Version Revision Date: SDS Number: Date of last issue: -

1.0 01.08.2022 50000688 Date of first issue: 01.08.2022

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : RUFAST E-FLO

Manufacturer or supplier's details

Company : FMC AGRICULTURAL SOLUTIONS A/S

Address : Thybornnvej 78

DK-7673 Harboore

Denmark

E-mail address : SDS-Info@fmc.com

Emergency telephone number : 1 703 / 741-5970 (CHEMTREC - International)

1 703 / 527-3887 (CHEMTREC - Alternate)

Medical Emergency Number : All other countries: +1 651 / 632-6793 (Collect)

Recommended use of the chemical and restrictions on use

Recommended use : Can be used as insecticide only.

Restrictions on use : Use as recommended by the label.

2. HAZARDS IDENTIFICATION

GHS Classification

Short-term (acute) aquatic

hazard

Category 1

Long-term (chronic) aquatic

hazard

Category 1

GHS label elements

Hazard pictograms

Signal word : Warning

Hazard statements : H410 Very toxic to aquatic life with long lasting effects.

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Precautionary statements : Prevention:

P262 Do not get in eyes, on skin, or on clothing.

P273 Avoid release to the environment.

Response:

P391 Collect spillage.

Disposal:

P501 Dispose of contents/ container to a local hazardous waste

disposal facility.

Other hazards which do not result in classification

None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Concentration (%	
		w/w)	
diethyl phthalate	84-66-2	>= 20 - < 25	
Acrinathrin	101007-06-1	>= 2.5 - < 10	

4. FIRST AID MEASURES

General advice : Move out of dangerous area.

Show this safety data sheet to the doctor in attendance.

Do not leave the victim unattended.

If inhaled : Consult a physician after significant exposure.

If unconscious, place in recovery position and seek medical

advice.

In case of skin contact : Take off contaminated clothing and shoes immediately.

Wash off immediately with soap and plenty of water.

Wash clothing before reuse.

Get medical attention if irritation develops and persists.

In case of eye contact : Flush eyes with water as a precaution.

Remove contact lenses. Protect unharmed eye.

Keep eye wide open while rinsing.

If eye irritation persists, consult a specialist.

If swallowed : Keep respiratory tract clear.

Do not give milk or alcoholic beverages.

Never give anything by mouth to an unconscious person.

If symptoms persist, call a physician.

Most important symptoms and effects, both acute and

delayed

None known.

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Protection of first-aiders : Avoid inhalation, ingestion and contact with skin and eyes.

Notes to physician : Treat symptomatically.

5. FIREFIGHTING MEASURES

Suitable extinguishing media : Dry chemical, CO2, water spray or regular foam.

Unsuitable extinguishing

media

Do not spread spilled material with high-pressure water

streams.

Specific hazards during fire-

fighting

Do not allow run-off from fire fighting to enter drains or water

courses.

Hazardous combustion prod-

ucts

Carbon oxides

Thermal decomposition can lead to release of irritating gases

and vapours.

Nitrogen oxides (NOx) Fluorine compounds

Specific extinguishing meth-

ods

Collect contaminated fire extinguishing water separately. This

must not be discharged into drains.

Fire residues and contaminated fire extinguishing water must

be disposed of in accordance with local regulations.

Remove undamaged containers from fire area if it is safe to do

SO.

Use a water spray to cool fully closed containers.

Standard procedure for chemical fires.

Use extinguishing measures that are appropriate to local cir-

cumstances and the surrounding environment.

Special protective equipment

for firefighters

Firefighters should wear protective clothing and self-contained

breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emer-

gency procedures

Evacuate personnel to safe areas.

Use personal protective equipment.

If it can be safely done, stop the leak.

Do not touch or walk through the spilled material.

Ensure adequate ventilation.

Environmental precautions : Prevent product from entering drains.

Prevent further leakage or spillage if safe to do so.

If the product contaminates rivers and lakes or drains inform

respective authorities.

Methods and materials for

containment and cleaning up

Never return spills in original containers for re-use.

Collect as much of the spill as possible with a suitable absor-

bent material.

Pick up and transfer to properly labelled containers.

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7. HANDLING AND STORAGE

Advice on protection against :

fire and explosion

Normal measures for preventive fire protection.

Advice on safe handling : Avoid formation of aerosol.

Do not breathe vapours/dust.

For personal protection see section 8.

Smoking, eating and drinking should be prohibited in the ap-

plication area.

Provide sufficient air exchange and/or exhaust in work rooms. Dispose of rinse water in accordance with local and national

regulations.

Conditions for safe storage : Keep container tightly closed in a dry and well-ventilated

place.

Containers which are opened must be carefully resealed and

kept upright to prevent leakage.

Electrical installations / working materials must comply with

the technological safety standards.

Materials to avoid : Do not store near acids.

Recommended storage tem-

perature

10 - 30 °C

Further information on stor-

age stability

No decomposition if stored and applied as directed.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
diethyl phthalate	84-66-2	TWA	5 mg/m3	ACGIH

Personal protective equipment

Respiratory protection : In case of mist, spray or aerosol exposure wear suitable per-

sonal respiratory protection and protective suit.

Hand protection

Material : Wear chemical resistant gloves, such as barrier laminate,

butyl rubber or nitrile rubber.

Remarks : The suitability for a specific workplace should be discussed

with the producers of the protective gloves.

Eye protection : Eye wash bottle with pure water

Tightly fitting safety goggles

Skin and body protection : Impervious clothing

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Choose body protection according to the amount and concen-

tration of the dangerous substance at the work place.

Protective measures : Plan first aid action before beginning work with this product.

Hygiene measures : General industrial hygiene practice.

Avoid contact with skin, eyes and clothing.

Do not inhale aerosol.

When using do not eat or drink. When using do not smoke.

Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

Colour : milky, white

Odour : slight, aromatic

Odour Threshold : No data available

pH : 4.8 (25 °C)

(as an emulsion)

Melting point/range : No data available

Boiling point/boiling range : No data available

Flash point : > 100 °C

Evaporation rate : No data available

Self-ignition : 445 °C

Upper explosion limit / Upper

flammability limit

not determined

Lower explosion limit / Lower

flammability limit

not determined

Vapour pressure : No data available

Relative vapour density : No data available

Relative density : No data available

Density : 1,068 kg/dm3

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Solubility(ies)

Water solubility : No data available

Partition coefficient: n-

octanol/water

No data available

Auto-ignition temperature : No data available

Decomposition temperature : No data available

Viscosity

Viscosity, dynamic : 534 mPa,s (25 °C)

Viscosity, kinematic : No data available

Explosive properties : Not explosive

Oxidizing properties : Non-oxidizing

Molecular weight : Not applicable

Particle size : Not applicable

10. STABILITY AND REACTIVITY

Reactivity : No decomposition if stored and applied as directed.

Chemical stability : No decomposition if stored and applied as directed.

Possibility of hazardous reac-

tions

No decomposition if stored and applied as directed.

Conditions to avoid : Protect from frost, heat and sunlight.

Avoid extreme temperatures Avoid formation of aerosol.

Incompatible materials : Avoid strong acids, bases, and oxidizers

Hazardous decomposition

products

No decomposition if stored and applied as directed.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Not classified based on available information.

Product:

Acute oral toxicity : LD50(Rat, female): > 2,000 mg/kg

Method: OECD Test Guideline 423

Assessment: The component/mixture is minimally toxic after

single ingestion.

Acute inhalation toxicity : LC50(Rat, male and female): > 4.84 mg/l

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Exposure time: 4 h

Test atmosphere: dust/mist

Method: OECD Test Guideline 403

Assessment: The component/mixture is moderately toxic after

short term inhalation. Remarks: Evident toxicity

Acute dermal toxicity : LD50(Rat, male and female): > 4,000 mg/kg

Method: OECD Test Guideline 402

Assessment: The component/mixture is minimally toxic after

single contact with skin.

Components:

diethyl phthalate:

Acute oral toxicity : LD50 (Rat, male and female): > 5,591 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 4.63 mg/l

Exposure time: 6 h

Test atmosphere: dust/mist

Assessment: The substance or mixture has no acute inhala-

tion toxicity

Acute dermal toxicity : LD50 (Rat, male and female): > 11,181 mg/kg

Acrinathrin:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat): 1.6 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg

Method: OECD Test Guideline 402

Assessment: The substance or mixture has no acute dermal

toxicity

Skin corrosion/irritation

Not classified based on available information.

Product:

Species : Rabbit

Assessment : No skin irritation

Method : OECD Test Guideline 404

Result : No skin irritation

Components:

diethyl phthalate:

Species : Rabbit
Method : Draize Test
Result : No skin irritation

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Acrinathrin:

Species : Rabbit

Method : OECD Test Guideline 404

Result : No skin irritation

Serious eye damage/eye irritation

Not classified based on available information.

Product:

Species : Rabbit

Assessment : No eye irritation

Method : OECD Test Guideline 405

Result : No eye irritation

Components:

diethyl phthalate:

Species : Rabbit

Result : No eye irritation

Acrinathrin:

Species : Rabbit

Method : OECD Test Guideline 405

Result : No eye irritation

Respiratory or skin sensitisation

Skin sensitisation

Not classified based on available information.

Respiratory sensitisation

Not classified based on available information.

Components:

diethyl phthalate:

Test Type : Buehler Test Species : Guinea pig

Result : Does not cause skin sensitisation.

Acrinathrin:

Test Type : Maximisation Test

Species : Guinea pig

Result : Does not cause skin sensitisation.

Germ cell mutagenicity

Not classified based on available information.

Product:

Germ cell mutagenicity - : Weight of evidence does not support classification as a germ

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Assessment cell mutagen.

Components:

diethyl phthalate:

Genotoxicity in vitro Test Type: Mouse lymphoma assay

> Test system: mouse lymphoma cells Method: OECD Test Guideline 476

Result: negative

Test Type: Chromosome aberration test in vitro

Test system: Human lymphocytes Method: OECD Test Guideline 473

Result: negative

Test Type: reverse mutation assay Method: OECD Test Guideline 471

Result: negative

Germ cell mutagenicity -

Assessment

Weight of evidence does not support classification as a germ

cell mutagen.

Acrinathrin:

Genotoxicity in vitro Test Type: Chromosome aberration test in vitro

Test system: Chinese hamster ovary cells Metabolic activation: Metabolic activation

Result: positive

Genotoxicity in vivo Test Type: chromosome aberration assay

Result: negative

Germ cell mutagenicity -

Assessment

Weight of evidence does not support classification as a germ

cell mutagen.

Carcinogenicity

Not classified based on available information.

Product:

Carcinogenicity - Assess-

ment

Weight of evidence does not support classification as a car-

cinogen

Components:

diethyl phthalate:

Species Rat. male **Application Route** Dermal Exposure time 103 weeks

Dose 320, 1015 mg/kg/d

>= 1,015 mg/kg bw/day

Result negative

Species Rat, female **Application Route** Dermal

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Exposure time : 103 weeks

Dose : 520, 1015 mg/kg/d

>= 1,015 mg/kg bw/day

Result : negative

Carcinogenicity - Assess-

ment

Weight of evidence does not support classification as a car-

cinogen

Acrinathrin:

Species : Rat, female

Method : OECD Test Guideline 453

Result : positive

Species : Mouse

Method : OECD Test Guideline 451

Result : negative

Species : Rat

Method : OECD Test Guideline 453

Result : negative

Carcinogenicity - Assess-

ment

Weight of evidence does not support classification as a car-

cinogen

Reproductive toxicity

Not classified based on available information.

Product:

Reproductive toxicity - As-

sessment

Weight of evidence does not support classification for repro-

ductive toxicity

Components:

diethyl phthalate:

Effects on fertility : Test Type: Two-generation study

Species: Rat, male and female

Application Route: Oral

Dose: 0, 600, 3000, 15000 parts per million General Toxicity - Parent: NOAEL: 15,000 General Toxicity F1: NOAEL: 3,000 Method: OECD Test Guideline 416

Result: negative

Effects on foetal develop-

ment

Test Type: Developmental Toxicity Screening Test

Species: Rat

Application Route: Oral Dose: 0, 0.25, 2.5 & 5.0%

General Toxicity Maternal: NOAEL: 0.25 Developmental Toxicity: NOAEL: 2.5

Result: Embryotoxic effects and adverse effects on the offspring were detected only at high maternally toxic doses

Acrinathrin:

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Reproductive toxicity - As-

sessment

: No evidence of adverse effects on sexual function and fertility,

or on development, based on animal experiments.

STOT - single exposure

Not classified based on available information.

Components:

Acrinathrin:

Remarks : No significant adverse effects were reported

STOT - repeated exposure

Not classified based on available information.

Components:

diethyl phthalate:

Assessment : The substance or mixture is not classified as specific target

organ toxicant, repeated exposure.

Repeated dose toxicity

Components:

diethyl phthalate:

Species : Rat, male and female

NOAEL : 150 mg/kg

Application Route : Oral Exposure time : 2 - 16 w

Dose : 0, 150, 750, 3160mg/kg

Acrinathrin:

Species : Rat
LOEL : 9 mg/kg
Application Route : Oral
Exposure time : 90 day

Target Organs : Skin, Nervous system

Aspiration toxicity

Not classified based on available information.

Product:

No aspiration toxicity classification

Components:

Acrinathrin:

The substance does not have properties associated with aspiration hazard potential.

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Experience with human exposure

Components:

diethyl phthalate:

General Information : Symptoms: male reproductive effects, central nervous system

effects

Skin contact : Symptoms: Dermatitis, sensitising effects

Further information

Product:

Remarks : No data available

12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 1.7 mg/l

Exposure time: 96 h

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 3.7 μg/l

Exposure time: 48 h

Toxicity to algae/aquatic

plants

EC50 (Scenedesmus subspicatus): > 1,000 mg/l

Toxicity to terrestrial organ-

isms

LC50: 2 - 12 µg/bee Exposure time: 48 h

End point: Acute oral toxicity Species: Apis mellifera (bees)

Remarks: Oral

LC50: 2 µg/bee Exposure time: 48 h

End point: Acute contact toxicity Species: Apis mellifera (bees)

Remarks: Contact

Components:

diethyl phthalate:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 12 mg/l

Exposure time: 96 h

Test Type: flow-through test

Toxicity to daphnia and other :

aquatic invertebrates

LC50 (Daphnia (water flea)): 90 mg/l

Exposure time: 48 h Test Type: static test

Toxicity to algae/aquatic : EC10 (Desmodesmus subspicatus (green algae)): 9 mg/l

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plants Exposure time: 72 h

Test Type: static test

EC50 (Desmodesmus subspicatus (green algae)): 45 mg/l

Exposure time: 72 h Test Type: static test

Toxicity to microorganisms : EC20 (activated sludge): 400 mg/l

Exposure time: 0.5 h

Test Type: Respiration inhibition

Method: ISO 8192

Toxicity to fish (Chronic tox-

icity)

NOEC: 5 mg/l

Exposure time: 28 d

Species: Cyprinus carpio (Carp) Test Type: semi-static test

Toxicity to daphnia and other

aquatic invertebrates (Chron-

ic toxicity)

NOEC: 25 mg/l Exposure time: 21 d

Species: Daphnia magna (Water flea)

Test Type: flow-through test

Toxicity to soil dwelling or-

ganisms

LC50: 0.85 mg/cm2

Exposure time: 48 d

Species: Eisenia fetida (earthworms) Method: OECD Test Guideline 207

Acrinathrin:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 0.0061 mg/l

Exposure time: 96 h

LC50 (Pimephales promelas (fathead minnow)): 0.002 mg/l

Exposure time: 96 h

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 0.000022 mg/l

Exposure time: 48 h

Toxicity to algae/aquatic

plants

IC50 (Scenedesmus subspicatus): > 100 mg/l

Exposure time: 72 h

Toxicity to daphnia and other : aquatic invertebrates (Chron-

NOEC: 0.0063

Exposure time: 21 d

Species: Daphnia magna (Water flea)

Toxicity to soil dwelling or-

ganisms

ic toxicity)

LC50: > 186 mg/kg Exposure time: 14 d

Species: Eisenia fetida (earthworms)

Toxicity to terrestrial organ-

isms

LD50: 0.08 µg/bee

End point: Acute contact toxicity Species: Apis mellifera (bees)

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Persistence and degradability

Product:

Biodegradability : Result: Not readily biodegradable.

Remarks: It undergoes degradation in the environment and in

waste water treatment plants.

Components:

diethyl phthalate:

Biodegradability : Inoculum: activated sludge, adapted

Result: Readily biodegradable. Biodegradation: 94.6 % Exposure time: 28 d

Acrinathrin:

Biodegradability : Result: Not readily biodegradable.

Stability in water : Degradation half life: 1 d

Bioaccumulative potential

Components:

diethyl phthalate:

Bioaccumulation : Bioconcentration factor (BCF): 13.1

Method: QSAR

Partition coefficient: n-

octanol/water

log Pow: 2.2 (40 °C)

pH: 7.5

Acrinathrin:

Bioaccumulation : Species: Cyprinus carpio (Carp)

Bioconcentration factor (BCF): 538 Remarks: Bioaccumulation is unlikely.

See section 9 for octanol-water partition coefficient.

Partition coefficient: n-

octanol/water

log Pow: 5.24 (25 °C)

Mobility in soil

Components:

Acrinathrin:

Distribution among environ-

mental compartments

: Remarks: immobile

Other adverse effects

Product:

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Additional ecological infor-

mation

An environmental hazard cannot be excluded in the event of

unprofessional handling or disposal.

Very toxic to aquatic life with long lasting effects.

13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues The product should not be allowed to enter drains, water

courses or the soil.

Do not contaminate ponds, waterways or ditches with chemi-

cal or used container.

Send to a licensed waste management company.

Contaminated packaging Empty remaining contents.

> Dispose of as unused product. Do not re-use empty containers.

Empty containers should be taken to an approved waste han-

dling site for recycling or disposal.

14. TRANSPORT INFORMATION

International Regulations

UNRTDG

UN number UN 3082

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, Proper shipping name

N.O.S.

(Acrinathrin)

Class 9 Packing group Ш Labels 9

IATA-DGR

UN/ID No. UN 3082

Proper shipping name Environmentally hazardous substance, liquid, n.o.s.

(Acrinathrin)

Class 9 Packing group Ш

Labels Miscellaneous

Packing instruction (cargo 964

aircraft)

Packing instruction (passen-

964

ger aircraft)

Environmentally hazardous

yes

IMDG-Code

UN number UN 3082

Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

N.O.S.

(Acrinathrin)

Class 9 Packing group Ш Labels 9

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EmS Code : F-A, S-F Marine pollutant : yes

Transport in bulk according to IMO instruments

Not applicable for product as supplied.

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mix-

The components of this product are reported in the following inventories:

TCSI : On the inventory, or in compliance with the inventory

TSCA : Product contains substance(s) not listed on TSCA inventory.

AIIC : Not in compliance with the inventory

DSL : This product contains the following components that are not

on the Canadian DSL nor NDSL.

(S)-A-CYANO-3-PHENOXYBENZYL (1R,3S)-2,2-DIMETHYL-

3-[(Z)-2-{[2,2,2-TRIFLUORO-1-

(TRIFLUOROMETHYL)ETHOXY]CARBONYL}VINYL]CYCLO

PROPANECARBOXYLATE

Poly(oxy-1,2-ethanediyl), .alpha.-[2,4,6-tris(1-

phenylethyl)phenyl]-.omega.-hydroxy-, phosphate, potassium

salt

Smectite-group minerals

ENCS : Not in compliance with the inventory

ISHL : Not in compliance with the inventory

KECI : Not in compliance with the inventory

PICCS : Not in compliance with the inventory

IECSC : Not in compliance with the inventory

NZIoC : Not in compliance with the inventory

TECI: Not in compliance with the inventory

16. OTHER INFORMATION

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Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)

ACGIH / TWA : 8-hour, time-weighted average

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR -Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation: DSL - Domestic Substances List (Canada): ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

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