

MATCH 050 CE

Version 9.0 Revision Date: 05.07.2018 SDS Number: S190187501 This version replaces all previous versions.

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name : MATCH 050 CE

Design code : A7814K

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

Use of the Substance/Mixture : Insecticide

1.3 Details of the supplier of the safety data sheet

Company : Syngenta Crop Protection AG
Postfach
CH-4002 Basel
Switzerland

Telephone : +41 61 323 11 11

Telefax : +41 61 323 12 12

E-mail address of person responsible for the SDS : sds.ch@syngenta.com

1.4 Emergency telephone number

Emergency telephone number : +44 1484 538444

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Flammable liquids, Category 3	H226: Flammable liquid and vapour.
Skin irritation, Category 2	H315: Causes skin irritation.
Serious eye damage, Category 1	H318: Causes serious eye damage.
Skin sensitisation, Category 1	H317: May cause an allergic skin reaction.
Aspiration hazard, Category 1	H304: May be fatal if swallowed and enters airways.
Acute aquatic toxicity, Category 1	H400: Very toxic to aquatic life.

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Chronic aquatic toxicity, Category 1

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

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms	:	    
Signal word	:	Danger
Hazard statements	:	H226 Flammable liquid and vapour. H304 May be fatal if swallowed and enters airways. H315 Causes skin irritation. H317 May cause an allergic skin reaction. H318 Causes serious eye damage. H410 Very toxic to aquatic life with long lasting effects.
Supplemental Hazard Statements	:	EUH066 Repeated exposure may cause skin dryness or cracking. EUH401 To avoid risks to human health and the environment, comply with the instructions for use.
Precautionary statements	:	Prevention: P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection. Response: P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor. P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor. P331 Do NOT induce vomiting. P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish. P391 Collect spillage.

Hazardous components which must be listed on the label:

Solvent naphtha (petroleum), heavy arom.; Kerosine -unspecified
cyclohexanone
lufenuron (ISO)
calcium bis(dodecylbenzenesulphonate), branched

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2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Hazardous components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
solvent naphtha (petroleum), heavy arom.	64742-94-5 265-198-5 01-2119463583-34	STOT SE 3; H336 Asp. Tox. 1; H304 Aquatic Chronic 2; H411	>= 50 - < 70
cyclohexanone	108-94-1 203-631-1 606-010-00-7 01-2119453616-35	Flam. Liq. 3; H226 Acute Tox. 4; H302 Acute Tox. 4; H332 Acute Tox. 4; H312 Skin Irrit. 2; H315 Eye Dam. 1; H318	>= 20 - < 30
lufenuron (ISO)	103055-07-8 410-690-9 616-050-00-7	Skin Sens. 1; H317 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	>= 2.5 - < 10
calcium bis(dodecylbenzenesulphonate), branched	68953-96-8 234-360-7 01-2119964467-24	Acute Tox. 4; H312 Skin Irrit. 2; H315 Eye Dam. 1; H318 Aquatic Chronic 2; H411	>= 3 - < 10
2-methylpropan-1-ol	78-83-1 201-148-0 603-108-00-1 01-2119484609-23	Flam. Liq. 3; H226 Skin Irrit. 2; H315 Eye Dam. 1; H318 STOT SE 3; H336 STOT SE 3; H335	>= 1 - < 3
naphthalene	91-20-3 202-049-5 601-052-00-2	Flam. Sol. 2; H228 Acute Tox. 4; H302 Carc. 2; H351 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	>= 0.25 - < 1

For explanation of abbreviations see section 16.

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SECTION 4: First aid measures

4.1 Description of first aid measures

- General advice : Have the product container, label or Safety Data Sheet with you when calling the emergency number, a poison control center or physician, or going for treatment.
- If inhaled : Move the victim to fresh air.
If breathing is irregular or stopped, administer artificial respiration.
Keep patient warm and at rest.
Call a physician or poison control centre immediately.
- In case of skin contact : Take off all contaminated clothing immediately.
Wash off immediately with plenty of water.
If skin irritation persists, call a physician.
Wash contaminated clothing before re-use.
- In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
Remove contact lenses.
Immediate medical attention is required.
- If swallowed : If swallowed, seek medical advice immediately and show this container or label.
Do not induce vomiting: contains petroleum distillates and/or aromatic solvents.

4.2 Most important symptoms and effects, both acute and delayed

- Symptoms : Aspiration may cause pulmonary oedema and pneumonitis.

4.3 Indication of any immediate medical attention and special treatment needed

- Treatment : There is no specific antidote available.
Treat symptomatically.
Do not induce vomiting: contains petroleum distillates and/or aromatic solvents.
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SECTION 5: Firefighting measures

5.1 Extinguishing media

- Suitable extinguishing media : Extinguishing media - small fires
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Extinguishing media - large fires
Alcohol-resistant foam
- Unsuitable extinguishing media : Do not use a solid water stream as it may scatter and spread fire.
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5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting : As the product contains combustible organic components, fire will produce dense black smoke containing hazardous products of combustion (see section 10).
Exposure to decomposition products may be a hazard to health.
Flash back possible over considerable distance.

5.3 Advice for firefighters

Special protective equipment for firefighters : Wear full protective clothing and self-contained breathing apparatus.

Further information : Do not allow run-off from fire fighting to enter drains or water courses.
Cool closed containers exposed to fire with water spray.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Refer to protective measures listed in sections 7 and 8.
Keep people away from and upwind of spill/leak.
Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
Remove all sources of ignition.
Pay attention to flashback.

6.2 Environmental precautions

Environmental precautions : Prevent further leakage or spillage if safe to do so.
Do not flush into surface water or sanitary sewer system.
If the product contaminates rivers and lakes or drains inform respective authorities.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).
Clean contaminated surface thoroughly.
Clean with detergents. Avoid solvents.
Retain and dispose of contaminated wash water.

6.4 Reference to other sections

For disposal considerations see section 13., Refer to protective measures listed in sections 7 and 8.

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SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling : Avoid contact with skin and eyes.
When using do not eat, drink or smoke.
Use only in an area containing flame proof equipment.
Take precautionary measures against static discharges.
For personal protection see section 8.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Keep away from combustible material. Keep in an area equipped with sprinklers. Keep away from food, drink and animal feedingstuffs. No smoking.

7.3 Specific end use(s)

Specific use(s) : For proper and safe use of this product, please refer to the approval conditions laid down on the product label.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
lufenuron	103055-07-8	TWA	5 mg/m ³	Syngenta
solvent naphtha (petroleum), heavy arom.	64742-94-5	TWA	100 mg/m ³	Supplier
2-methylpropan-1-ol	78-83-1	TLV-C	50 ppm 150 mg/m ³	
solvent naphtha (petroleum), heavy arom.	64742-94-5	TWA	100 mg/m ³	Supplier
cyclohexanone	108-94-1	TWA	10 ppm 40.8 mg/m ³	2000/39/EC
Further information	Identifies the possibility of significant uptake through the skin, Indicative			
	108-94-1	STEL	20 ppm 81.6 mg/m ³	2000/39/EC
Further information	Identifies the possibility of significant uptake through the skin, Indicative			
	108-94-1	TWA	25 ppm 100 mg/m ³	CH SUVA
Further information	Toxic by skin resorption possible; Substances, which are easily absorbed through the skin, can give by additional skin resorption a substantial higher risk compared to only inhalation by the airways., National Institute for Occupational Safety and Health, Institut National de Recherche et de Sécurité			

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	pour la prévention des accidents du travail et des maladies professionnelles, Harm to the unborn child is not to be expected when the OEL-value is respected			
	108-94-1	STEL	50 ppm 200 mg/m ³	CH SUVA
Further information	Toxic by skin resorption possible; Substances, which are easily absorbed through the skin, can give by additional skin resorption a substantial higher risk compared to only inhalation by the airways., National Institute for Occupational Safety and Health, Institut National de Recherche et de Sécurité pour la prévention des accidents du travail et des maladies professionnelles, Harm to the unborn child is not to be expected when the OEL-value is respected			
lufenuron (ISO)	103055-07-8	TWA	5 mg/m ³	Syngenta
2-methylpropan-1-ol	78-83-1	TWA	50 ppm 150 mg/m ³	CH SUVA
Further information	National Institute for Occupational Safety and Health, Institut National de Recherche et de Sécurité pour la prévention des accidents du travail et des maladies professionnelles, Harm to the unborn child is not to be expected when the OEL-value is respected			
	78-83-1	STEL	50 ppm 150 mg/m ³	CH SUVA
Further information	National Institute for Occupational Safety and Health, Institut National de Recherche et de Sécurité pour la prévention des accidents du travail et des maladies professionnelles, Harm to the unborn child is not to be expected when the OEL-value is respected			
naphthalene	91-20-3	TWA	10 ppm 50 mg/m ³	91/322/EEC
Further information	Indicative			
	91-20-3	TWA	10 ppm 50 mg/m ³	CH SUVA
Further information	Toxic by skin resorption possible; Substances, which are easily absorbed through the skin, can give by additional skin resorption a substantial higher risk compared to only inhalation by the airways., Carcinogenic Category 3, National Institute for Occupational Safety and Health, Occupational Safety and Health Administration			

Biological occupational exposure limits

Substance name	CAS-No.	Control parameters	Sampling time	Basis
cyclohexanone	108-94-1	total 1,2-cyclohexanediol: 100 mg/l (Urine)	Immediately after exposition or after working hours, In case of long-term exposition: after more than one shift	CH BAT
		total 1,2-cyclohexanediol: 0.86 Millimoles per liter (Urine)	Immediately after exposition or after working hours, In case of long-term exposition: after more than one shift	CH BAT
		total cyclohexanol: 12 mg/l	Immediately after exposition or after	CH BAT

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		(Urine)	working hours, In case of long-term exposition: after more than one shift	
		total cyclohexanol: 0.12 Millimoles per liter (Urine)	Immediately after exposition or after working hours, In case of long-term exposition: after more than one shift	CH BAT

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Substance name	End Use	Exposure routes	Potential health effects	Value
cyclohexanone	Consumers	Dermal	Long-term systemic effects	20 mg/kg
	Consumers	Inhalation	Long-term systemic effects	20 mg/m ³
	Consumers	Oral	Long-term systemic effects	5 mg/kg
	Workers	Inhalation	Long-term systemic effects	100 mg/m ³
	Workers	Inhalation	Short-term exposure, Systemic effects	80 mg/m ³
	Workers	Inhalation	Long-term local effects	40 mg/m ³
	Workers	Inhalation	Short-term exposure, Local effects	80 mg/m ³
	Workers	Dermal	Short-term exposure, Systemic effects	4 mg/kg
calcium bis(dodecylbenzenes ulphonate), branched	Workers	Inhalation	Long-term systemic effects	6 mg/m ³
	Workers	Dermal	Long-term systemic effects	8.5 mg/kg
	Consumers	Inhalation	Long-term systemic effects	1.48 mg/m ³
	Consumers	Dermal	Long-term systemic effects	4.25 mg/kg
	Consumers	Oral	Long-term systemic effects	0.43 mg/kg
2-methylpropan-1-ol	Workers	Inhalation	Long-term systemic effects, Long-term local effects	310 mg/m ³
	Consumers	Inhalation	Long-term systemic effects, Long-term local effects	55 mg/m ³
	Consumers	Oral	Long-term systemic effects, Long-term local effects	25 mg/kg

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Substance name	Environmental Compartment	Value
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cyclohexanone	Fresh water	0.0329 mg/l
	Marine water	0.00329 mg/l
	Intermittent use/release	0.329 mg/l
	Sewage treatment plant	10 mg/l
	Fresh water sediment	0.168 mg/kg
	Marine sediment	0.0168 mg/kg
	Soil	0.0143 mg/kg
calcium bis(dodecylbenzenesulphonate), branched	Fresh water	0.023 mg/l
	Marine water	0.0023 mg/l
	Intermittent use/release	0.29 mg/l
	Fresh water sediment	1.35 mg/kg
	Marine sediment	0.135 mg/kg
	Sewage treatment plant	5.5 mg/kg
	Soil	0.124 mg/kg
2-methylpropan-1-ol	Fresh water	0.4 mg/l
	Sewage treatment plant	10 mg/l
	Soil	0.0699 mg/kg
	Marine sediment	0.152 mg/kg
	Fresh water sediment	1.52 mg/kg
	Marine water	0.04 mg/l

8.2 Exposure controls

Engineering measures

Containment and/or segregation is the most reliable technical protection measure if exposure cannot be eliminated.

The extent of these protection measures depends on the actual risks in use.

Maintain air concentrations below occupational exposure standards.
Where necessary, seek additional occupational hygiene advice.

Personal protective equipment

Eye protection : Always wear eye protection when the potential for inadvertent eye contact with the product cannot be excluded.
Tightly fitting safety goggles
Face-shield

Use eye protection according to EN 166.

Hand protection

Material : Nitrile rubber
Break through time : > 480 min
Glove thickness : 0.5 mm

Remarks : Wear protective gloves. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other.
Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the

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gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. The break through time depends amongst other things on the material, the thickness and the type of glove and therefore has to be measured for each case. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

- Skin and body protection** : Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.
Remove and wash contaminated clothing before re-use.
Wear as appropriate:
Impervious clothing
- Respiratory protection** : When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
Suitable respiratory equipment:
Respirator with combination filter for vapour/particulate (EN 141)
The filter class for the respirator must be suitable for the maximum expected contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used.
- Filter type** : Combined particulates and organic vapour type (A-P)
- Protective measures** : The use of technical measures should always have priority over the use of personal protective equipment.
When selecting personal protective equipment, seek appropriate professional advice.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

- Appearance : liquid
- Colour : light yellow to brownish
- Odour : aromatic
- Odour Threshold : No data available
- pH : 3 - 7
Concentration: 1 % w/v

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Melting point/range	:	No data available
Boiling point/boiling range	:	No data available
Flash point	:	51 °C Method: Pensky-Martens closed cup
Evaporation rate	:	No data available
Flammability (solid, gas)	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapour pressure	:	No data available
Relative vapour density	:	No data available
Density	:	0.933 g/cm ³
Solubility(ies) Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	440 °C
Decomposition temperature	:	No data available
Viscosity Viscosity, dynamic	:	2.85 mPa.s (20 °C) 1.96 mPa.s (40 °C)
Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.

9.2 Other information

Surface tension : 29.1 mN/m, 20 °C

SECTION 10: Stability and reactivity

10.1 Reactivity

None reasonably foreseeable.

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10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous reactions : No dangerous reaction known under conditions of normal use.

10.4 Conditions to avoid

Conditions to avoid : No decomposition if used as directed.

10.5 Incompatible materials

Materials to avoid : None known.

10.6 Hazardous decomposition products

Hazardous decomposition products : No hazardous decomposition products are known.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Information on likely routes of exposure : Ingestion
Inhalation
Skin contact
Eye contact

Acute toxicity

Product:

Acute oral toxicity : LD50 (Rat, male and female): > 3,000 mg/kg
Assessment: The substance or mixture has no acute oral toxicity
Remarks: The toxicological data has been taken from products of similar composition.

Acute inhalation toxicity : LC50 (Rat, male and female): > 5.3 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: The toxicological data has been taken from products of similar composition.

Acute dermal toxicity : LD50 (Rat, male and female): > 4,000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity
Remarks: The toxicological data has been taken from products of similar composition.

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Components:

solvent naphtha (petroleum), heavy arom.:

- Acute oral toxicity : LD50 (Rat, male): 6,318 mg/kg
- Acute inhalation toxicity : LC50 (Rat, male): > 4,688 mg/l
Exposure time: 4 h
- Acute dermal toxicity : LD50 (Rabbit, male): > 2,000 mg/kg

cyclohexanone:

- Acute oral toxicity : LD50 (Rat): 1,534 mg/kg
- Acute inhalation toxicity : LC50 (Rat): 11 mg/l
Exposure time: 4 h
Test atmosphere: vapour
- Acute dermal toxicity : LD50 (Rabbit): 1,100 mg/kg

lufenuron (ISO):

- Acute oral toxicity : LD50 (Rat, female): > 2,000 mg/kg
Assessment: The substance or mixture has no acute oral toxicity
- Acute inhalation toxicity : LC50 (Rat, male and female): > 2,350 mg/m³
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity
- Acute dermal toxicity : LD50 (Rat, male and female): > 2,000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

calcium bis(dodecylbenzenesulphonate), branched:

- Acute dermal toxicity : Acute toxicity estimate: 1,100 mg/kg
Method: Converted acute toxicity point estimate
Assessment: The component/mixture is moderately toxic after single contact with skin.

2-methylpropan-1-ol:

- Acute oral toxicity : LD50 (Rat): 2,830 - 3,350 mg/kg
- Acute inhalation toxicity : LC50 (Rat): > 18.18 mg/l
Exposure time: 6 h
Test atmosphere: vapour
- Acute dermal toxicity : LD50 (Rabbit): > 2,000 - 2,460 mg/kg

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naphthalene:

Acute oral toxicity : Assessment: The component/mixture is moderately toxic after single ingestion.

Skin corrosion/irritation

Product:

Species : Rabbit
Result : irritating
Remarks : The toxicological data has been taken from products of similar composition.

Components:

solvent naphtha (petroleum), heavy arom.:

Result : No skin irritation

cyclohexanone:

Species : Rabbit
Result : Irritating to skin.

lufenuron (ISO):

Species : Rabbit
Result : No skin irritation

calcium bis(dodecylbenzenesulphonate), branched:

Result : Irritating to skin.

2-methylpropan-1-ol:

Result : Irritating to skin.

Serious eye damage/eye irritation

Product:

Species : Rabbit
Result : Risk of serious damage to eyes.

Components:

solvent naphtha (petroleum), heavy arom.:

Result : No eye irritation

cyclohexanone:

Species : Rabbit
Result : Risk of serious damage to eyes.

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lufenuron (ISO):

Species : Rabbit
Result : No eye irritation

calcium bis(dodecylbenzenesulphonate), branched:

Result : Risk of serious damage to eyes.

2-methylpropan-1-ol:

Result : Risk of serious damage to eyes.

Respiratory or skin sensitisation

Product:

Test Type : Maximisation Test
Species : Guinea pig
Result : May cause sensitisation by skin contact.
Remarks : The toxicological data has been taken from products of similar composition.

Components:

solvent naphtha (petroleum), heavy arom.:

Result : Did not cause sensitisation on laboratory animals.

lufenuron (ISO):

Species : Guinea pig
Result : May cause sensitisation by skin contact.

Germ cell mutagenicity

Components:

solvent naphtha (petroleum), heavy arom.:

Germ cell mutagenicity-Assessment : In vitro tests did not show mutagenic effects, In vivo tests did not show mutagenic effects

lufenuron (ISO):

Germ cell mutagenicity-Assessment : Animal testing did not show any mutagenic effects.

2-methylpropan-1-ol:

Germ cell mutagenicity-Assessment : Animal testing did not show any mutagenic effects.

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Carcinogenicity

Components:

lufenuron (ISO):

Carcinogenicity - Assessment : No evidence of carcinogenicity in animal studies.

naphthalene:

Carcinogenicity - Assessment : Limited evidence of carcinogenicity in animal studies

Reproductive toxicity

Components:

lufenuron (ISO):

Reproductive toxicity - Assessment : No toxicity to reproduction

2-methylpropan-1-ol:

Reproductive toxicity - Assessment : Weight of evidence does not support classification for reproductive toxicity

STOT - single exposure

Components:

solvent naphtha (petroleum), heavy arom.:

Assessment : The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with narcotic effects.

2-methylpropan-1-ol:

Assessment : The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation., The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with narcotic effects.

Repeated dose toxicity

Components:

lufenuron (ISO):

Remarks : No adverse effect has been observed in chronic toxicity tests.

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Aspiration toxicity

Components:

solvent naphtha (petroleum), heavy arom.:

May be fatal if swallowed and enters airways.

2-methylpropan-1-ol:

May be harmful if swallowed and enters airways.

SECTION 12: Ecological information

12.1 Toxicity

Product:

Toxicity to fish : Remarks: [No data is available on the product itself.](#)

Components:

lufenuron (ISO):

Toxicity to fish : LC50 (Lepomis macrochirus (Bluegill sunfish)): > 29 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0.0011 mg/l
Exposure time: 48 h

LC50 (Americamysis bahia (Mysid shrimp)): 0.000042 mg/l
Exposure time: 96 h

M-Factor (Acute aquatic toxicity) : 10,000

Toxicity to microorganisms : EC50 (activated sludge): > 100 mg/l
Exposure time: 3 h

Toxicity to fish (Chronic toxicity) : NOEC: 0.069 mg/l
Exposure time: 21 d
Species: Oncorhynchus mykiss (rainbow trout)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0.00010 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)

M-Factor (Chronic aquatic toxicity) : 1,000

calcium bis(dodecylbenzenesulphonate), branched:

Ecotoxicology Assessment

Chronic aquatic toxicity : Toxic to aquatic life with long lasting effects.

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2-methylpropan-1-ol:

- Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 1,430 mg/l
Exposure time: 96 h
- Toxicity to daphnia and other aquatic invertebrates : NOEC (Daphnia magna (Water flea)): 20 mg/l
Exposure time: 21 d
- EC50 (Daphnia pulex (Water flea)): 1,100 mg/l
Exposure time: 48 h
- Toxicity to algae : EC50 (Pseudokirchneriella subcapitata (green algae)): 1,799 mg/l
Exposure time: 72 h

naphthalene:

Ecotoxicology Assessment

- Acute aquatic toxicity : Very toxic to aquatic life.
- Chronic aquatic toxicity : Very toxic to aquatic life with long lasting effects.

12.2 Persistence and degradability

Components:

cyclohexanone:

- Biodegradability : Result: Readily biodegradable.

lufenuron (ISO):

- Biodegradability : Result: Not readily biodegradable.
- Stability in water : Degradation half life (DT50): 112 d
Remarks: Product is not persistent.

2-methylpropan-1-ol:

- Biodegradability : Result: Readily biodegradable.

12.3 Bioaccumulative potential

Components:

lufenuron (ISO):

- Bioaccumulation : Remarks: Lufenuron bioaccumulates.
- Partition coefficient: n-octanol/water : log Pow: 5.12 (25 °C)

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12.4 Mobility in soil

Components:

lufenuron (ISO):

Distribution among environmental compartments : Remarks: immobile

Stability in soil : Dissipation time: 28 d
Percentage dissipation: 50 % (DT50)
Remarks: Product is not persistent.

12.5 Results of PBT and vPvB assessment

Product:

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher..

Components:

solvent naphtha (petroleum), heavy arom.:

Assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT).. This substance is not considered to be very persistent and very bioaccumulating (vPvB)..

cyclohexanone:

Assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT).. This substance is not considered to be very persistent and very bioaccumulating (vPvB)..

lufenuron (ISO):

Assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT).. This substance is not considered to be very persistent and very bioaccumulating (vPvB)..

2-methylpropan-1-ol:

Assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT).. This substance is not considered to be very persistent and very bioaccumulating (vPvB)..

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12.6 Other adverse effects

Components:

solvent naphtha (petroleum), heavy arom.:

Additional ecological information : No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

- Product : Do not contaminate ponds, waterways or ditches with chemical or used container.
Do not dispose of waste into sewer.
Where possible recycling is preferred to disposal or incineration.
If recycling is not practicable, dispose of in compliance with local regulations.
- Contaminated packaging : Empty remaining contents.
Triple rinse containers.
Empty containers should be taken to an approved waste handling site for recycling or disposal.
Do not re-use empty containers.
-

SECTION 14: Transport information

14.1 UN number

- ADN** : UN 1224
ADR : UN 1224
RID : UN 1224
IMDG : UN 1224
IATA : UN 1224

14.2 UN proper shipping name

- ADN** : KETONES, LIQUID, N.O.S.
(ALKYL (C3-C5) BENZENES AND CYCLOHEXANONE AND LUFENURON)
- ADR** : KETONES, LIQUID, N.O.S.
(ALKYL (C3-C5) BENZENES AND CYCLOHEXANONE AND LUFENURON)
- RID** : KETONES, LIQUID, N.O.S.
(ALKYL (C3-C5) BENZENES AND CYCLOHEXANONE AND LUFENURON)
-

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IMDG : KETONES, LIQUID, N.O.S.
(ALKYL (C3-C5) BENZENES AND CYCLOHEXANONE AND LUFENURON AND NAPHTHALENE)

IATA : Ketones, liquid, n.o.s.
(ALKYL (C3-C5) BENZENES AND CYCLOHEXANONE AND LUFENURON)

14.3 Transport hazard class(es)

ADN : 3

ADR : 3

RID : 3

IMDG : 3

IATA : 3

14.4 Packing group

ADN

Packing group : III
Classification Code : F1
Hazard Identification Number : 30
Labels : 3

ADR

Packing group : III
Classification Code : F1
Hazard Identification Number : 30
Labels : 3
Tunnel restriction code : (D/E)

RID

Packing group : III
Classification Code : F1
Hazard Identification Number : 30
Labels : 3

IMDG

Packing group : III
Labels : 3
EmS Code : F-E, S-D

IATA (Cargo)

Packing instruction (cargo aircraft) : 366
Packing instruction (LQ) : Y344
Packing group : III
Labels : Flammable Liquid

IATA (Passenger)

Packing instruction (passenger aircraft) : 355
Packing instruction (LQ) : Y344
Packing group : III
Labels : Flammable Liquid

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14.5 Environmental hazards

ADN

Environmentally hazardous : yes

ADR

Environmentally hazardous : yes

RID

Environmentally hazardous : yes

IMDG

Marine pollutant : yes

14.6 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.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable for product as supplied.

SECTION 15: Regulatory information

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

Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals : Not applicable

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). : Not applicable

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer : Not applicable

Regulation (EC) No 850/2004 on persistent organic pollutants : Not applicable

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

		Quantity 1	Quantity 2
P5c	FLAMMABLE LIQUIDS	5,000 t	50,000 t
E1	ENVIRONMENTAL HAZARDS	100 t	200 t
34	Petroleum products: (a) gasolines and naphthas, (b) kerosenes (including jet fuels), (c) gas oils (including diesel fuels, home heating oils and gas	2,500 t	25,000 t

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oil blending streams),(d)
heavy fuel oils (e)
alternative fuels serving the
same purposes and with
similar properties as
regards flammability and
environmental hazards as
the products referred to in
points (a) to (d)

Other regulations:

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

Take note of Directive 92/85/EEC regarding maternity protection or stricter national regulations, where applicable.

Article 13 Maternity ordinance (SR 822.111.52): Expectant and nursing mothers are only permitted to come into contact with this product during the course of their work if, based on a risk assessment carried out in accordance with Article 63 of Ordinance 1 on the Employment Act (ArGV 1) (SR 822.111), the chemicals in question have been found not to cause any specific harm to mothers or children or if such harm can be ruled out by taking appropriate protective measures.

Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

Article 4 para. 4 of the Ordinance on the protection of young people in the workplace (SR 822.115) and Article 1 lit. f of the EAER regulation on hazardous work and young people (SR 822.115.2): Young people undergoing basic vocational training may only work with this product if the relevant training ordinance makes provision for them to do so with a view to enabling them to achieve their training objectives and if the preconditions for the training plan have been met and the applicable age restrictions have been complied with. Young people who are not completing any basic vocational training are not permitted to work with this product. Employees of either sex who are under 18 years old are classed as young people.

15.2 Chemical safety assessment

A Chemical Safety Assessment is not required for this substance when it is used in the specified applications.

SECTION 16: Other information

Full text of H-Statements

H226	:	Flammable liquid and vapour.
H228	:	Flammable solid.
H302	:	Harmful if swallowed.
H304	:	May be fatal if swallowed and enters airways.
H312	:	Harmful in contact with skin.
H315	:	Causes skin irritation.
H317	:	May cause an allergic skin reaction.
H318	:	Causes serious eye damage.

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H332 : Harmful if inhaled.
H335 : May cause respiratory irritation.
H336 : May cause drowsiness or dizziness.
H351 : Suspected of causing cancer.
H400 : Very toxic to aquatic life.
H410 : Very toxic to aquatic life with long lasting effects.
H411 : Toxic to aquatic life with long lasting effects.

Full text of other abbreviations

Acute Tox. : Acute toxicity
Aquatic Acute : Acute aquatic toxicity
Aquatic Chronic : Chronic aquatic toxicity
Asp. Tox. : Aspiration hazard
Carc. : Carcinogenicity
Eye Dam. : Serious eye damage
Flam. Liq. : Flammable liquids
Flam. Sol. : Flammable solids
Skin Irrit. : Skin irritation
Skin Sens. : Skin sensitisation
STOT SE : Specific target organ toxicity - single exposure
2000/39/EC : Europe. Commission Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values
91/322/EEC : Europe. Commission Directive 91/322/EEC on establishing indicative limit values
CH BAT : Switzerland. List of BAT-values
CH SUVA : Switzerland. Limit values at the work place
2000/39/EC / TWA : Limit Value - eight hours
2000/39/EC / STEL : Short term exposure limit
91/322/EEC / TWA : Limit Value - eight hours
CH SUVA / TWA : Time Weighted Average
CH SUVA / STEL : Short Term Exposure Limit

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; 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; 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; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic

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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; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information

Classification of the mixture:

Flam. Liq. 3	H226
Skin Irrit. 2	H315
Eye Dam. 1	H318
Skin Sens. 1	H317
Asp. Tox. 1	H304
Aquatic Acute 1	H400
Aquatic Chronic 1	H410

Classification procedure:

Based on product data or assessment
Based on product data or assessment
Based on product data or assessment
Based on product data or assessment
Calculation method
Calculation method
Calculation method

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