

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



MARSHAL 25 EC

Version	Revision Date:	SDS Number:	Date of last issue: 11.07.2023
1.1	01.11.2023	50000504	Date of first issue: 11.07.2023

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

1.1 Product identifier

Product name MARSHAL 25 EC

Other means of identification

Product code 50000504

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

Use of the Substance/Mixture : Insecticide

Recommended restrictions on use : Use as recommended by the label.

1.3 Details of the supplier of the safety data sheet

Supplier Address

FMC Operational Netherlands B.V.
The Mark - 2nd floor office 209
Fascinatio Boulevard 216-220
NL-3065 WB Rotterdam
Netherlands

Telephone: +31(0)10-8081422
E-mail address: SDS-Info@fmc.com .

1.4 Emergency telephone number

For leak, fire, spill or accident emergencies, call:
BIG (Fire Service Information Center for Hazardous Substances) 24/7, telephone number +32(0)14-584545.

Medical emergency:
Netherlands: +31 (0) 88 755 8000
(NVIC emergency telephone number) - For the sole purpose of informing healthcare professionals in the event of acute poisoning.

Poisoning centers may only have required information for products in accordance with Regulation (EC) No. 1272/2008 and national law.

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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.
Acute toxicity, Category 3	H301: Toxic if swallowed.
Acute toxicity, Category 2	H330: Fatal if inhaled.
Acute toxicity, Category 4	H312: Harmful in contact with skin.
Eye irritation, Category 2	H319: Causes serious eye irritation.
Skin sensitisation, Sub-category 1B	H317: May cause an allergic skin reaction.
Carcinogenicity, Category 2	H351: Suspected of causing cancer.
Specific target organ toxicity - single exposure, Category 1	H370: Causes damage to organs.
Specific target organ toxicity - single exposure, Category 3, Respiratory system	H335: May cause respiratory irritation.
Specific target organ toxicity - single exposure, Category 3, Central nervous system	H336: May cause drowsiness or dizziness.
Specific target organ toxicity - repeated exposure, Category 1	H372: Causes damage to organs through prolonged or repeated exposure.
Aspiration hazard, Category 1	H304: May be fatal if swallowed and enters airways.
Short-term (acute) aquatic hazard, Category 1	H400: Very toxic to aquatic life.
Long-term (chronic) aquatic hazard, 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

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Hazard statements : H226 Flammable liquid and vapour.
H301 Toxic if swallowed.
H304 May be fatal if swallowed and enters airways.
H312 Harmful in contact with skin.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H330 Fatal if inhaled.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.
H351 Suspected of causing cancer.
H370 Causes damage to organs.
H372 Causes damage to organs through prolonged or repeated exposure.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements : **Prevention:**
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260 Do not breathe mist or vapours.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.

Response:

P301 + P310 + P330 IF SWALLOWED: Immediately call a POISON CENTER/ doctor. Rinse mouth.
P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.
P308 + P311 IF exposed or concerned: 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.

Storage:

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

Hazardous components which must be listed on the label:

Aromatic hydrocarbons, C9; Alkylbenzenes; C9-aromatics
Distillates (petroleum), solvent-dewaxed light paraffinic; Baseoil — unspecified carbosulfan (ISO)
Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts

Additional Labelling

Restricted to professional users.

EUH066 Repeated exposure may cause skin dryness or cracking.

EUH401 To avoid risks to human health and the environment, comply with the instruc-

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tions for use.

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.

Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
Aromatic hydrocarbons, C9; Alkylbenzenes; C9-aromatics	128601-23-0	Flam. Liq. 3; H226 STOT SE 3; H335 (Respiratory system) STOT SE 3; H336 (Central nervous system) Asp. Tox. 1; H304 Aquatic Chronic 2; H411 EUH066	>= 30 - < 50
Distillates (petroleum), solvent-dewaxed light paraffinic; Baseoil — unspecified	64742-56-9 265-159-2 649-469-00-9	Carc. 1B; H350 Asp. Tox. 1; H304	>= 20 - < 30
carbosulfan (ISO)	55285-14-8 259-565-9 006-084-00-5	Acute Tox. 3; H301 Acute Tox. 2; H330 Skin Sens. 1; H317 STOT SE 1; H370 (Nervous system, Bladder, Gastro-intestinal system, Blood) STOT RE 1; H372 (Nervous system, Bladder, Gastro-intestinal system,	>= 25 - < 30

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		Blood) Aquatic Acute 1; H400 Aquatic Chronic 1; H410 <hr/> M-Factor (Acute aquatic toxicity): 100 M-Factor (Chronic aquatic toxicity): 10 <hr/> Acute toxicity estimate Acute oral toxicity: 100,0 mg/kg 185 mg/kg Acute inhalation toxicity (dust/mist): 0,15 mg/l	
Polyethyleneglycol sorbitan trioleate	9005-70-3	Aquatic Chronic 3; H412	$\geq 1 - < 2,5$
Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts	68953-96-8 273-234-6	Acute Tox. 4; H312 Skin Irrit. 2; H315 Eye Dam. 1; H318 Aquatic Chronic 2; H411 <hr/> Acute toxicity estimate Acute dermal toxicity: 1.001 mg/kg	$\geq 1 - < 2,5$

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

- General advice : Move out of dangerous area.
Consult a physician.
Show this safety data sheet to the doctor in attendance.
Symptoms of poisoning may appear several hours later.
Do not leave the victim unattended.
- If inhaled : Remove to fresh air.
Call a physician or poison control centre immediately.
If unconscious, place in recovery position and seek medical advice.

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|-------------------------|---|
| In case of skin contact | : Take victim immediately to hospital.
If on skin, rinse well with water.
If on clothes, remove clothes. |
| In case of eye contact | : Immediately flush eye(s) with plenty of water.
Remove contact lenses.
Protect unharmed eye.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist. |
| If swallowed | : Clean mouth with water and drink afterwards plenty of water.
Keep respiratory tract clear.
Do not induce vomiting without medical advice.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.
Take victim immediately to hospital. |

4.2 Most important symptoms and effects, both acute and delayed

- | | |
|----------|---|
| Symptoms | : Symptoms of overexposure include headache, light-headedness, weakness, abdominal cramps, nausea, excessive salivation, perspiration, blurred vision, tearing, pin-point pupils, blue skin color, convulsions, tremor and coma. |
| Risks | : The product contains petroleum distillates, which may pose an aspiration pneumonia hazard.

Toxic if swallowed.
May be fatal if swallowed and enters airways.
Harmful in contact with skin.
May cause an allergic skin reaction.
Causes serious eye irritation.
Fatal if inhaled.
May cause respiratory irritation.
May cause drowsiness or dizziness.
Suspected of causing cancer.
Causes damage to organs.
Causes damage to organs through prolonged or repeated exposure.
Repeated exposure may cause skin dryness or cracking. |

4.3 Indication of any immediate medical attention and special treatment needed

- | | |
|-----------|---|
| Treatment | : Treat symptomatically.
This product contains a reversible cholinesterase inhibitor. Atropine sulfate is antidotal. If cyanosis is absent: Adults - start treatment by giving 2 mg atropine intravenously or intramuscularly, if necessary, and repeat with 0.4 - 2.0 mg atropine at 15 minute intervals until atropinization occurs (tachycardia, flushed skin, dry mouth, mydriasis); Children under 12 - initial dose = 0.05 mg/kg body weight and repeat dose = 0.02 - 0.05 mg/kg body weight. Use of oximes such as 2-PAM is controversial. Observe patient to ensure that these symptoms do not |
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recur as atropinization wears off. If in eyes, instill one drop of homatropine. Treatment is otherwise controlled removal of exposure followed by symptomatic and supportive care.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Alcohol-resistant foam
Carbon dioxide (CO₂)
Dry chemical

Unsuitable extinguishing media : High volume water jet

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire-fighting : Do not allow run-off from fire fighting to enter drains or water courses.

Hazardous combustion products : Fire may produce irritating, corrosive and/or toxic gases.
Carbon oxides
Sulphur oxides
Nitrogen oxides (NO_x)
Hydrogen cyanide

5.3 Advice for firefighters

Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary.

Further information : 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.
For safety reasons in case of fire, cans should be stored separately in closed containments.
Use a water spray to cool fully closed containers.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Use personal protective equipment.
Ensure adequate ventilation.
Remove all sources of ignition.
Evacuate personnel to safe areas.
Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
Immediately evacuate personnel to safe areas.
Never return spills in original containers for re-use.
Mark the contaminated area with signs and prevent access to unauthorized personnel.

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Only qualified personnel equipped with suitable protective equipment may intervene.

6.2 Environmental precautions

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.

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).

6.4 Reference to other sections

See sections: 7, 8, 11, 12 and 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling : Avoid formation of aerosol.
Do not breathe vapours/dust.
Avoid exposure - obtain special instructions before use.
Avoid contact with skin and eyes.
For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
Take precautionary measures against static discharges.
Provide sufficient air exchange and/or exhaust in work rooms.
Open drum carefully as content may be under pressure.
Dispose of rinse water in accordance with local and national regulations.
Persons susceptible to skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.

Advice on protection against fire and explosion : Do not spray on a naked flame or any incandescent material.
Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). Keep away from open flames, hot surfaces and sources of ignition.

Hygiene measures : Avoid contact with skin, eyes and clothing. When using do not eat or drink. When using do not smoke. Wash hands before breaks and immediately after handling the product.

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7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Prevent unauthorized access. No smoking. 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. Observe label precautions. Electrical installations / working materials must comply with the technological safety standards.

Further information on storage conditions : Store in closed, labelled containers. The storage room should be constructed of incombustible material, closed, dry, ventilated and with impermeable floor, without access of unauthorised persons or children. A warning sign reading "POISON" is recommended. The room should only be used for storage of chemicals. Food, drink, feed and seed should not be present. A hand wash station should be available.

Further information on storage stability : No decomposition if stored and applied as directed.

7.3 Specific end use(s)

Specific use(s) : Registered pesticide to be used in accordance with a label approved by country-specific regulatory authorities.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
Distillates (petroleum), solvent-dewaxed light paraffinic; Baseoil — unspecified	64742-56-9	TLV-8hr (Mist)	5 mg/m ³	NL WG

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

Substance name	End Use	Exposure routes	Potential health effects	Value
Aromatic hydrocarbons, C ₉ ; Alkylbenzenes; C ₉ -aromatics	Workers	Inhalation	Long-term systemic effects	150 mg/m ³
	Workers	Dermal	Long-term systemic effects	25 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	32 mg/m ³
	Consumers	Dermal	Long-term systemic effects	11 mg/kg bw/day
	Consumers	Oral	Long-term systemic	11 mg/kg

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			effects	bw/day
Distillates (petroleum), solvent-dewaxed light paraffinic; Baseoil — unspecified	Workers	Inhalation		2,7 mg/m3
	Workers	Dermal		1 mg/kg
	Consumers	Oral		0,74 mg/kg
Soybean oil, epoxidized	Workers	Inhalation	Long-term systemic effects	11,9 mg/m3
	Workers	Inhalation	Acute systemic effects	70 mg/m3
	Workers	Dermal	Long-term systemic effects	1,7 mg/kg bw/day
	Workers	Dermal	Acute systemic effects	10 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	2,8 mg/m3
	Consumers	Inhalation	Acute systemic effects	17,5 mg/m3
	Consumers	Dermal	Long-term systemic effects	0,800 mg/kg bw/day
	Consumers	Dermal	Acute systemic effects	5 mg/kg bw/day
	Consumers	Oral	Long-term systemic effects	0,800 mg/kg bw/day
	Consumers	Oral	Acute systemic effects	5 mg/kg bw/day
Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts	Workers	Inhalation	Long-term systemic effects	6 mg/m3
	Workers	Dermal	Long-term systemic effects	8,5 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	1,48 mg/m3
	Consumers	Dermal	Long-term systemic effects	4,25 mg/kg bw/day
	Consumers	Oral	Long-term systemic effects	0,43 mg/kg bw/day

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

Substance name	Environmental Compartment	Value
Distillates (petroleum), solvent-dewaxed light paraffinic; Baseoil — unspecified	Oral	9,33 mg/kg
Soybean oil, epoxidized	Soil	6,25 mg/kg dry weight (d.w.)
Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts	Fresh water	0,023 mg/l
	Marine water	0,002 mg/l
	Sewage treatment plant	5,5 mg/l

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	Fresh water sediment	1,35 mg/kg
	Marine sediment	0,135 mg/kg
	Soil	0,124 mg/kg
	Intermittent use (freshwater)	0,290 mg/l

8.2 Exposure controls

Personal protective equipment

Eye/face protection : Eye wash bottle with pure water
Tightly fitting safety goggles
Wear face-shield and protective suit for abnormal processing problems.

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.

Skin and body protection : Impervious clothing
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Respiratory protection : In the case of dust or aerosol formation use respirator with an approved filter.

Protective measures : Plan first aid action before beginning work with this product.
Always have on hand a first-aid kit, together with proper instructions.
Wear suitable protective equipment.
When using do not eat, drink or smoke.

In the context of professional plant protection use as recommended, the end user must refer to the label and the instructions for use.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state : liquid
Colour : dark, amber
Odour : hydrocarbon-like
Melting point/freezing point : No data available

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Boiling point/boiling range	:	No data available
Flash point	:	55 °C Method: closed cup
Decomposition temperature	:	No data available
pH	:	No data available
Viscosity Viscosity, kinematic	:	No data available
Solubility(ies) Water solubility	:	emulsifiable
Partition coefficient: n-octanol/water	:	No data available
Vapour pressure	:	No data available
Density	:	7,74 lb/gal
Relative vapour density	:	No data available
Particle characteristics Particle size	:	Not applicable
Particle Size Distribution	:	Not applicable
Shape	:	Not applicable

9.2 Other information

Flammability (liquids)	:	Sustains combustion
Self-ignition	:	No data available

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SECTION 10: Stability and reactivity

10.1 Reactivity

No decomposition if stored and applied as directed.

10.2 Chemical stability

No decomposition if stored and applied as directed.

10.3 Possibility of hazardous reactions

Hazardous reactions : Contact with aqueous acids may produce carbofuran.
Vapours may form explosive mixture with air.

10.4 Conditions to avoid

Conditions to avoid : Heat, flames and sparks.

10.5 Incompatible materials

Materials to avoid : Avoid strong acids, bases, and oxidizers

10.6 Hazardous decomposition products

Thermal decomposition can lead to release of irritating gases and vapours.

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

Toxic if swallowed.
Harmful in contact with skin.
Fatal if inhaled.

Product:

Acute oral toxicity : LD50 (Rat): 59,9 mg/kg
Acute inhalation toxicity : LC50 (Rat): 0,265 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Acute dermal toxicity : LD50 (Rabbit): > 1.520 mg/kg

Components:

Aromatic hydrocarbons, C9; Alkylbenzenes; C9-aromatics:

Acute oral toxicity : LD50 (Rat, female): 3.492 mg/kg
Acute inhalation toxicity : LC50 (Rat, male and female): > 6,193 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Assessment: The substance or mixture has no acute inhala-

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tion toxicity

Acute dermal toxicity : LD50 (Rabbit, male and female): > 3.160 mg/kg

Distillates (petroleum), solvent-dewaxed light paraffinic; Baseoil — unspecified:

Acute oral toxicity : LD50 (Rat, male and female): > 5.000 mg/kg
Method: OECD Test Guideline 401
Remarks: Based on data from similar materials

Acute inhalation toxicity : LC50 (Rat, male and female): > 5,53 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: Based on data from similar materials

Acute dermal toxicity : LD50 (Rabbit, male and female): > 5.000 mg/kg
Method: OECD Test Guideline 402
Remarks: Based on data from similar materials

carbosulfan (ISO):

Acute oral toxicity : Acute toxicity estimate: 100,0 mg/kg
Method: Converted acute toxicity point estimate
LD50 (Rat, female): 185 mg/kg

Acute inhalation toxicity : LC50 (Rat, female): 0,15 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rat): > 2.000 mg/kg

Polyethyleneglycol sorbitan trioleate:

Acute oral toxicity : LD50 (Rat): 36.400 mg/kg

Acute toxicity (other routes of administration) : LD50 (Rat): 142 mg/kg

Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:

Acute oral toxicity : LD0 (Rat, male and female): > 2.000 mg/kg
Method: OECD Test Guideline 401
Remarks: no mortality

Acute dermal toxicity : LD50 (Rat, male and female): > 1.000 - 1.600 mg/kg
Method: OECD Test Guideline 402

Skin corrosion/irritation

Repeated exposure may cause skin dryness or cracking.

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Product:

Result : slight irritation

Remarks : May cause skin irritation and/or dermatitis.

Components:

Aromatic hydrocarbons, C9; Alkylbenzenes; C9-aromatics:

Species : Rabbit

Method : OECD Test Guideline 404

Result : Mild skin irritation

Assessment : Repeated exposure may cause skin dryness or cracking.

Distillates (petroleum), solvent-dewaxed light paraffinic; Baseoil — unspecified:

Species : Rabbit

Result : No skin irritation

Remarks : Based on data from similar materials

carbosulfan (ISO):

Species : Rabbit

Result : slight irritation

Polyethyleneglycol sorbitan trioleate:

Result : No skin irritation

Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:

Species : Rabbit

Result : Skin irritation

Serious eye damage/eye irritation

Causes serious eye irritation.

Product:

Result : Irritation to eyes, reversing within 21 days

Remarks : May cause irreversible eye damage.

Components:

Aromatic hydrocarbons, C9; Alkylbenzenes; C9-aromatics:

Species : Rabbit

Result : No eye irritation

Distillates (petroleum), solvent-dewaxed light paraffinic; Baseoil — unspecified:

Species : Rabbit

Method : OECD Test Guideline 405

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Result : No eye irritation
Remarks : Based on data from similar materials

carbosulfan (ISO):

Species : Rabbit
Result : slight irritation

Polyethyleneglycol sorbitan trioleate:

Species : Rabbit
Result : slight irritation

Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:

Species : Rabbit
Result : Irreversible effects on the eye

Respiratory or skin sensitisation

Skin sensitisation

May cause an allergic skin reaction.

Respiratory sensitisation

Not classified based on available information.

Product:

Species : laboratory animal
Result : Probability or evidence of low to moderate skin sensitisation rate in humans

Remarks : Causes sensitisation.

Components:

Aromatic hydrocarbons, C9; Alkylbenzenes; C9-aromatics:

Test Type : Maximisation Test
Species : Guinea pig
Method : OECD Test Guideline 406

Distillates (petroleum), solvent-dewaxed light paraffinic; Baseoil — unspecified:

Test Type : Buehler Test
Exposure routes : Skin contact
Species : Guinea pig
Method : OECD Test Guideline 406
Result : Not a skin sensitizer.
Remarks : Based on data from similar materials

carbosulfan (ISO):

Test Type : Buehler Test
Species : Guinea pig
Method : OECD Test Guideline 406

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Result : Not a skin sensitizer.

Test Type : Patch test
Species : Guinea pig
Result : May cause sensitisation by skin contact.

Polyethyleneglycol sorbitan trioleate:

Test Type : Human repeat insult patch test (HRIPT)
Exposure routes : Skin contact
Species : Humans
Result : Not a skin sensitizer.

Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:

Test Type : Maximisation Test
Species : Guinea pig
Method : OECD Test Guideline 406
Result : Does not cause skin sensitisation.

Germ cell mutagenicity

Not classified based on available information.

Components:

Aromatic hydrocarbons, C9; Alkylbenzenes; C9-aromatics:

Genotoxicity in vitro : Test Type: reverse mutation assay
Metabolic activation: with and without metabolic activation
Result: negative

Genotoxicity in vivo : Test Type: Bone marrow chromosome aberration
Species: Rat
Result: negative

Distillates (petroleum), solvent-dewaxed light paraffinic; Baseoil — unspecified:

Genotoxicity in vitro : Test Type: reverse mutation assay
Metabolic activation: Metabolic activation
Method: OECD Test Guideline 471
Result: positive
Remarks: Based on data from similar materials

Genotoxicity in vivo : Test Type: Micronucleus test
Species: Mouse (male and female)
Application Route: Intraperitoneal injection
Method: OECD Test Guideline 474
Result: negative
Remarks: Based on data from similar materials

carbosulfan (ISO):

Genotoxicity in vitro : Test Type: reverse mutation assay
Test system: Salmonella typhimurium
Result: negative

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Test Type: reverse mutation assay
Test system: Escherichia coli
Result: negative

Test Type: gene mutation test
Test system: Chinese hamster cells
Result: negative

Test Type: Chromosome aberration test in vitro
Test system: Chinese hamster cells
Result: negative

Genotoxicity in vivo : Test Type: chromosome aberration assay
Species: mice
Result: negative

Polyethyleneglycol sorbitan trioleate:

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

Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:

Genotoxicity in vitro : Test Type: In vitro mammalian cell gene mutation test
Result: negative
Remarks: Based on data from similar materials

Test Type: reverse mutation assay
Method: Mutagenicity (Salmonella typhimurium - reverse mutation assay)
Result: negative

Genotoxicity in vivo : Test Type: Micronucleus test
Species: Mouse (male and female)
Application Route: Oral
Result: negative
Remarks: Based on data from similar materials

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

Carcinogenicity

Suspected of causing cancer.

Product:

Carcinogenicity - Assessment : Limited evidence of carcinogenicity in animal studies

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Components:

Distillates (petroleum), solvent-dewaxed light paraffinic; Baseoil — unspecified:

Species	: Mouse, female
Application Route	: Dermal
Exposure time	: 78 weeks
Result	: negative
Remarks	: Based on data from similar materials

carbosulfan (ISO):

Species	: Mouse
Exposure time	: 2 Years
NOAEL	: 2,5 mg/kg bw/day
Result	: negative

Species	: Rat
Exposure time	: 2 Years
NOAEL	: 1 mg/kg bw/day
Result	: negative

Carcinogenicity - Assessment	: Weight of evidence does not support classification as a carcinogen
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Polyethyleneglycol sorbitan trioleate:

Species	: Mouse
Application Route	: Dermal
Result	: negative

Carcinogenicity - Assessment	: Weight of evidence does not support classification as a carcinogen
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Reproductive toxicity

Not classified based on available information.

Components:

Aromatic hydrocarbons, C9; Alkylbenzenes; C9-aromatics:

Effects on fertility	: Test Type: Three-generation study Species: Rat Application Route: Inhalation Result: negative
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Effects on foetal development	: Test Type: Pre-natal Species: Rat Application Route: inhalation (vapour) Method: OECD Test Guideline 414 Result: negative Remarks: Based on data from similar materials
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carbosulfan (ISO):

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Effects on fertility : Test Type: Three-generation study
Species: Rat
Application Route: Oral
General Toxicity - Parent: NOAEL: 1,2 mg/kg bw/day
Fertility: NOAEL: 1,2 mg/kg bw/day
Result: negative

Effects on foetal development : Test Type: Embryo-foetal development
Species: Rat
Application Route: Oral
General Toxicity Maternal: NOAEL: 2 mg/kg bw/day
Developmental Toxicity: NOAEL: 2
Result: negative

Test Type: Embryo-foetal development
Species: Rabbit
Application Route: Oral
General Toxicity Maternal: NOAEL: 5 mg/kg bw/day
Developmental Toxicity: NOAEL: 10
Result: negative

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

Polyethyleneglycol sorbitan trioleate:

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

Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:

Effects on fertility : Test Type: Three-generation study
Species: Rat, male and female
Application Route: Oral
Dose: 14, 70, 350 mg/kg bw d
General Toxicity - Parent: NOAEL: 350 mg/kg body weight
General Toxicity F1: NOAEL: 350 mg/kg bw/day
General Toxicity F2: NOAEL: 350 mg/kg bw/day
Result: negative
Remarks: Based on data from similar materials

Effects on foetal development : Test Type: reproductive and developmental toxicity study
Species: Rat
Application Route: Oral
Dose: 0.2, 2.0, 300 and 600 mg/kg
Duration of Single Treatment: 20 d
General Toxicity Maternal: LOAEL: 600 mg/kg body weight
Teratogenicity: LOAEL: 600 mg/kg bw/day
Result: negative
Remarks: Based on data from similar materials

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

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STOT - single exposure

May cause respiratory irritation.
May cause drowsiness or dizziness.
Causes damage to organs.

Product:

Assessment : The substance or mixture is classified as specific target organ toxicant, single exposure, category 1.

Components:

Aromatic hydrocarbons, C9; Alkylbenzenes; C9-aromatics:

Assessment : May cause respiratory irritation., May cause drowsiness or dizziness.

carbosulfan (ISO):

Target Organs : Nervous system, Bladder, Gastro-intestinal system, Blood
Assessment : The substance or mixture is classified as specific target organ toxicant, single exposure, category 1.

Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:

Assessment : The substance or mixture is not classified as specific target organ toxicant, single exposure.

STOT - repeated exposure

Causes damage to organs through prolonged or repeated exposure.

Product:

Assessment : The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 1.

Components:

carbosulfan (ISO):

Target Organs : Nervous system, Bladder, Gastro-intestinal system, Blood
Assessment : The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 1.

Repeated dose toxicity

Components:

Aromatic hydrocarbons, C9; Alkylbenzenes; C9-aromatics:

Species : Rat, males
NOAEC : 1,8 mg/l
Application Route : inhalation (vapour)
Exposure time : 12 months
Remarks : Based on data from similar materials

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carbosulfan (ISO):

Species	: Rat
NOAEL	: 2 mg/kg bw/day
Application Route	: Oral
Exposure time	: 90 days

Species	: Dog
NOAEL	: 1.6 mg/kg bw/day
Application Route	: Oral
Exposure time	: 6 months

Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:

Species	: Rat, male and female
NOAEL	: 40 mg/kg bw/day
LOAEL	: 115 mg/kg bw/day
Application Route	: Oral - feed
Exposure time	: 6 months
Dose	: 40, 115, 340, 1030 mg/kg bw d
Remarks	: Based on data from similar materials

Aspiration toxicity

May be fatal if swallowed and enters airways.

Product:

The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

Components:

Aromatic hydrocarbons, C9; Alkylbenzenes; C9-aromatics:

May be fatal if swallowed and enters airways.

Distillates (petroleum), solvent-dewaxed light paraffinic; Baseoil — unspecified:

May be fatal if swallowed and enters airways.

carbosulfan (ISO):

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

11.2 Information on other hazards

Endocrine disrupting properties

Product:

Assessment	: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.
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Neurological effects

Components:

carbosulfan (ISO):

Remarks : Neurotoxicity observed in animals studies

Further information

Product:

Remarks : This substance is a reversible cholinesterase-inhibiting pesticide, which elicits symptoms in humans typical of cholinesterase inhibition including headache, light-headedness, weakness, abdominal cramps, nausea, excessive salivation, perspiration and blurred vision. More severe signs of cholinesterase inhibition include tearing, pin-point pupils, excessive respiratory secretions, cyanosis, convulsions, generalized tremor and coma. Excessive cholinesterase inhibition may result in death.

Remarks : Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.
Concentrations substantially above the TLV value may cause narcotic effects.
Solvents may degrease the skin.

SECTION 12: Ecological information

12.1 Toxicity

Components:

Aromatic hydrocarbons, C9; Alkylbenzenes; C9-aromatics:

Toxicity to fish : LL50 (Oncorhynchus mykiss (rainbow trout)): 9,2 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203
Remarks: water accommodated fractions (WAF)

Toxicity to daphnia and other aquatic invertebrates : EL50 (Daphnia magna (Water flea)): 3,2 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : NOELR (Pseudokirchneriella subcapitata (green algae)): 0,22 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

EL50 (Pseudokirchneriella subcapitata (green algae)): 7,9 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

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Toxicity to microorganisms : EC50 (activated sludge): > 99 mg/l
Exposure time: 10 min
Method: OECD Test Guideline 209

Ecotoxicology Assessment

Acute aquatic toxicity : Toxic to aquatic life.

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

Distillates (petroleum), solvent-dewaxed light paraffinic; Baseoil — unspecified:

Toxicity to fish : LL50 (Pimephales promelas (fathead minnow)): > 100 mg/l
Exposure time: 96 h
Test Type: static test
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EL50 (Daphnia magna (Water flea)): > 10.000 mg/l
Exposure time: 24 h
Test Type: static test
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : NOELR (Pseudokirchneriella subcapitata (green algae)): 100 mg/l
Exposure time: 72 h
Test Type: static test
Method: OECD Test Guideline 201

Toxicity to microorganisms : NOEL : > 1,93 mg/l
Exposure time: 0,16 h

Toxicity to fish (Chronic toxicity) : NOELR: 1.000 mg/l
Exposure time: 14 d
Species: Oncorhynchus mykiss (rainbow trout)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : 10 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Test Type: semi-static test
Method: OECD Test Guideline 211

carbosulfan (ISO):

Toxicity to fish : LC50 (Lepomis macrochirus (Bluegill sunfish)): 0,015 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0,0015 mg/l
Exposure time: 48 h

Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (microalgae)): > 20 mg/l
Exposure time: 96 h

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M-Factor (Acute aquatic toxicity) : 100

Toxicity to fish (Chronic toxicity) : NOEC: 0,00828 mg/l
Exposure time: 21 d
Species: Pimephales promelas (fathead minnow)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0,0032 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)

M-Factor (Chronic aquatic toxicity) : 10

Toxicity to terrestrial organisms : 1,035 µg/bee
Species: Apis mellifera (bees)
Remarks: Oral

0,18 µg/bee
Species: Apis mellifera (bees)
Remarks: Contact

LD50: 10 mg/kg
Species: Anas platyrhynchos (Mallard duck)

Polyethyleneglycol sorbitan trioleate:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): > 750 mg/l
Exposure time: 96 h
Test Type: static test

Ecotoxicology Assessment

Acute aquatic toxicity : Harmful to aquatic life.

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

Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:

Toxicity to fish : LC50 (Danio rerio (zebra fish)): 31,6 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 62 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): 29 mg/l
Exposure time: 96 h
Remarks: Based on data from similar materials

NOEC (Pseudokirchneriella subcapitata (green algae)): 0,5 mg/l
Exposure time: 96 h

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Remarks: Based on data from similar materials

Toxicity to microorganisms : EC50 (activated sludge): 550 mg/l
Exposure time: 3 h
Method: OECD Test Guideline 209

Toxicity to fish (Chronic toxicity) : NOEC: 0,23 mg/l
Exposure time: 72 d
Species: Oncorhynchus mykiss (rainbow trout)
Test Type: flow-through test
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 1,18 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Test Type: flow-through test
Remarks: Based on data from similar materials

Toxicity to soil dwelling organisms : NOEC: 250 mg/kg
Exposure time: 14 d
Species: Eisenia fetida (earthworms)
Method: OECD Test Guideline 207
Remarks: Based on data from similar materials

LC50: > 1.000 mg/kg
Exposure time: 14 d
Species: Eisenia fetida (earthworms)
Method: OECD Test Guideline 207
Remarks: Based on data from similar materials

Plant toxicity : EC50: 167 mg/kg
Exposure time: 21 d
Species: Sorghum bicolor (sorghum)

80 mg/kg
Exposure time: 14 d
Species: Avena sativa (oats)

Toxicity to terrestrial organisms : EC10: 82 mg/kg
Exposure time: 21 d
Species: Hypoaspis aculeifer
Remarks: Information given is based on data obtained from similar substances.

12.2 Persistence and degradability

Product:

Biodegradability : Remarks: No data is available on the product itself.

Components:

Aromatic hydrocarbons, C9; Alkylbenzenes; C9-aromatics:

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Biodegradability : Result: Readily biodegradable.
Biodegradation: 78 %
Exposure time: 28 d
Method: OECD Test Guideline 301F

Distillates (petroleum), solvent-dewaxed light paraffinic; Baseoil — unspecified:

Biodegradability : Result: Inherently biodegradable.
Biodegradation: 31 %
Exposure time: 28 d
Method: OECD Test Guideline 301F

carbosulfan (ISO):

Biodegradability : Result: Not readily biodegradable.
Biodegradation: 28 %
Exposure time: 28 d

Stability in water : Remarks: Hydrolyses readily.

Polyethyleneglycol sorbitan trioleate:

Biodegradability : Result: Not readily biodegradable.
Remarks: Based on data from similar materials

Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:

Biodegradability : Inoculum: activated sludge, non-adapted
Result: Not readily biodegradable.
Biodegradation: 2,9 %
Exposure time: 28 d
Method: OECD Test Guideline 301E

Result: Inherently biodegradable.
Biodegradation: > 35 - 45 %
Exposure time: 10 d

12.3 Bioaccumulative potential

Product:

Bioaccumulation : Remarks: No data is available on the product itself.

Components:

Aromatic hydrocarbons, C9; Alkylbenzenes; C9-aromatics:

Partition coefficient: n- : log Pow: 2,92 - 3,59
octanol/water : Method: QSAR

carbosulfan (ISO):

Bioaccumulation : Species: Fish
Bioconcentration factor (BCF): 990
Remarks: Can accumulate in aquatic organisms.

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Partition coefficient: n-octanol/water : log Pow: 7,42

Polyethyleneglycol sorbitan trioleate:

Bioaccumulation : Remarks: Bioaccumulation is unlikely.
Based on data from similar materials

Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:

Bioaccumulation : Bioconcentration factor (BCF): 3,16
Method: QSAR

Partition coefficient: n-octanol/water : log Pow: 4,595 (20 °C)

12.4 Mobility in soil

Product:

Distribution among environmental compartments : Remarks: No data is available on the product itself.

Components:

carbosulfan (ISO):

Distribution among environmental compartments : Remarks: Slightly mobile in soils

Stability in soil :

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.

12.6 Endocrine disrupting properties

Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7 Other adverse effects

Product:

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Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Very toxic to aquatic life with long lasting effects.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : The product should not be allowed to enter drains, water courses or the soil.
Do not contaminate ponds, waterways or ditches with chemical or used container.
Send to a licensed waste management company.

Contaminated packaging : Empty remaining contents.
Do not re-use empty containers.
Packaging that is not properly emptied must be disposed of as the unused product.
Empty containers should be taken to an approved waste handling site for recycling or disposal.

SECTION 14: Transport information

14.1 UN number or ID number

ADN	: UN 2991
ADR	: UN 2991
RID	: UN 2991
IMDG	: UN 2991
IATA	: UN 2991

14.2 UN proper shipping name

ADN	: CARBAMATE PESTICIDE, LIQUID, TOXIC, FLAMMABLE (Carbosulfan, Xylene, mixed isomers)
ADR	: CARBAMATE PESTICIDE, LIQUID, TOXIC, FLAMMABLE (Carbosulfan, Xylene, mixed isomers)
RID	: CARBAMATE PESTICIDE, LIQUID, TOXIC, FLAMMABLE (Carbosulfan, Xylene, mixed isomers)
IMDG	: CARBAMATE PESTICIDE, LIQUID, TOXIC, FLAMMABLE (Carbosulfan, Xylene, mixed isomers)
IATA	: Carbamate pesticide, liquid, toxic, flammable (Carbosulfan, Xylene, mixed isomers)

14.3 Transport hazard class(es)

	Class	Subsidiary risks
ADN	: 6.1	3

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ADR	:	6.1	3
RID	:	6.1	3
IMDG	:	6.1	3
IATA	:	6.1	3

14.4 Packing group

ADN

Packing group	:	II
Classification Code	:	TF2
Hazard Identification Number	:	63
Labels	:	6.1 (3)

ADR

Packing group	:	II
Classification Code	:	TF2
Hazard Identification Number	:	63
Labels	:	6.1 (3)
Tunnel restriction code	:	(D/E)

RID

Packing group	:	II
Classification Code	:	TF2
Hazard Identification Number	:	63
Labels	:	6.1 (3)

IMDG

Packing group	:	II
Labels	:	6.1 (3)
EmS Code	:	F-E, S-D

IATA (Cargo)

Packing instruction (cargo aircraft)	:	662
Packing instruction (LQ)	:	Y641
Packing group	:	II
Labels	:	Toxic, Flammable Liquids

IATA (Passenger)

Packing instruction (passenger aircraft)	:	654
Packing instruction (LQ)	:	Y641
Packing group	:	II
Labels	:	Toxic, Flammable Liquids

14.5 Environmental hazards

ADN

Environmentally hazardous	:	yes
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ADR

Environmentally hazardous	:	yes
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RID

Environmentally hazardous	:	yes
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IMDG

Marine pollutant : yes

IATA (Passenger)

Environmentally hazardous : yes

IATA (Cargo)

Environmentally hazardous : 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 Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

SECTION 15: Regulatory information

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

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII) : Conditions of restriction for the following entries should be considered: Number on list 75, 3

If you intend to use this product as tattoo ink, please contact your vendor.

Distillates (petroleum), solvent-dewaxed light paraffinic; Baseoil — unspecified (Number on list 28)

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 (EU) 2019/1021 on persistent organic pollutants (recast) : Not applicable

Netherlands. Substances of very high concern (ZZS-list) : Distillates (petroleum), solvent-dewaxed light paraffinic; Baseoil — unspecified
Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified

Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals : carbosulfan (ISO)

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REACH - List of substances subject to authorisation (Annex XIV) : 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. H2 ACUTE TOXIC

P5c FLAMMABLE LIQUIDS

E1 ENVIRONMENTAL HAZARDS

General Assessment Methodology (GAM)

Aquatic harmfulness : Z1 Non biodegradable substances with hazardous properties for humans and the environment (carcinogenicity/ mutagenicity/ reprotoxicity/ bioaccumulative potential/ toxicity or persistence).

Abatement effort : Z

Other regulations:

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

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

Contains a substance which is subject to the SZW-list of carcinogenic substances (Ministry of Social Affairs and Employment). Distillates (petroleum), solvent-dewaxed light paraffinic; Baseoil — unspecified

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

TCSI	: Not 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. 2,3-DIHYDRO-2,2-DIMETHYLBENZOFURAN-7-YL (DIBUTYLAMINTHIO)METHYLCARBAMATE Aromatic hydrocarbons, C9; Alkylbenzenes; C9-aromatics
ENCS	: Not in compliance with the inventory

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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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

15.2 Chemical safety assessment

No Chemical Safety Assessment has been carried out for this mixture.

SECTION 16: Other information

Full text of H-Statements

H226	: Flammable liquid and vapour.
H301	: Toxic 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.
H330	: Fatal if inhaled.
H335	: May cause respiratory irritation.
H336	: May cause drowsiness or dizziness.
H350	: May cause cancer.
H370	: Causes damage to organs.
H372	: Causes damage to organs through prolonged or repeated exposure.
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.
H412	: Harmful to aquatic life with long lasting effects.
EUH066	: Repeated exposure may cause skin dryness or cracking.

Full text of other abbreviations

Acute Tox.	: Acute toxicity
Aquatic Acute	: Short-term (acute) aquatic hazard
Aquatic Chronic	: Long-term (chronic) aquatic hazard
Asp. Tox.	: Aspiration hazard
Carc.	: Carcinogenicity
Eye Dam.	: Serious eye damage
Flam. Liq.	: Flammable liquids
Skin Irrit.	: Skin irritation
Skin Sens.	: Skin sensitisation
STOT RE	: Specific target organ toxicity - repeated exposure
STOT SE	: Specific target organ toxicity - single exposure
NL WG	: Netherlands. Law on Labour conditions - Occupational Exposure Limits

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NL WG / TLV-8hr : Time Weighted Average

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; 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 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; TECI - Thailand Existing Chemicals 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
Acute Tox. 3	H301
Acute Tox. 2	H330
Acute Tox. 4	H312
Eye Irrit. 2	H319
Skin Sens. 1B	H317
Carc. 2	H351
STOT SE 1	H370
STOT SE 3	H335
STOT SE 3	H336
STOT RE 1	H372

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
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
Based on product data or assessment

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



MARSHAL 25 EC

Version 1.1	Revision Date: 01.11.2023	SDS Number: 50000504	Date of last issue: 11.07.2023 Date of first issue: 11.07.2023
Asp. Tox. 1	H304	Based on product data or assessment	
Aquatic Acute 1	H400	Calculation method	
Aquatic Chronic 1	H410	Calculation method	

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