

SAFETY DATA SHEET

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



arecal Marker USD marking spray white 500 ml

Version	Revision Date:	SDS Number:	Date of last issue: 25.06.2024
5.0	08.11.2024	9613194-00009	Date of first issue: 17.09.2021

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

1.1 Product identifier

Trade name : arecal Marker USD marking spray white 500 ml

Product code : 0897 494 500

Unique Formula Identifier (UFI) : 9K80-S0SS-U00G-YMXG

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

Use of the Sub-stance/Mixture : Paint, Marking colorant
Professional use product

Recommended restrictions on use : Not applicable

1.3 Details of the supplier of the safety data sheet

Company : RECA NORM GmbH
Am Wasserturm 4
DE-74635 Kupferzell

Telephone : +49 7944 61 0

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

1.4 Emergency telephone number

+49 (0)6132 – 84463

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Aerosols, Category 1

H222: Extremely flammable aerosol.

H229: Pressurised container: May burst if heated.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

SAFETY DATA SHEET

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



arecal Marker USD marking spray white 500 ml

Version 5.0 Revision Date: 08.11.2024 SDS Number: 9613194-00009 Date of last issue: 25.06.2024
Date of first issue: 17.09.2021

Hazard pictograms	:	
Signal word	:	Danger
Hazard statements	:	H222 Extremely flammable aerosol. H229 Pressurised container: May burst if heated.
Supplemental Hazard Statements	:	EUH066 Repeated exposure may cause skin dryness or cracking.
Precautionary statements	:	Prevention: P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P211 Do not spray on an open flame or other ignition source. P251 Do not pierce or burn, even after use. Storage: P410 + P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/ 122 °F.

Additional Labelling

EUH208	Contains Fatty acids, tall-oil, compds. with oleylamine. May produce an allergic reaction.
EUH211	Warning! Hazardous respirable droplets may be formed when sprayed. Do not breathe spray or mist.

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.	Classification	Concentration
---------------	---------	----------------	---------------

SAFETY DATA SHEET

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



arecal Marker USD marking spray white 500 ml

Version 5.0 Revision Date: 08.11.2024 SDS Number: 9613194-00009 Date of last issue: 25.06.2024
Date of first issue: 17.09.2021

	EC-No. Index-No. Registration number		(% w/w)
Ethyl acetate	141-78-6 205-500-4 607-022-00-5 01-2119475103-46	Flam. Liq. 2; H225 Eye Irrit. 2; H319 STOT SE 3; H336 EUH066	>= 1 - < 10
Titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 µm]	13463-67-7 236-675-5 022-006-00-2	Carc. 2; H351	>= 1 - < 10
Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics	Not Assigned 01-2119463258-33	Flam. Liq. 3; H226 STOT SE 3; H336 Asp. Tox. 1; H304 EUH066	>= 1 - < 10
Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics	Not Assigned 01-2119471843-32	Flam. Liq. 3; H226 STOT SE 3; H336 Asp. Tox. 1; H304 Aquatic Chronic 3; H412 EUH066	>= 2,5 - < 10
Butanone	78-93-3 201-159-0 606-002-00-3	Flam. Liq. 2; H225 Eye Irrit. 2; H319 STOT SE 3; H336 EUH066	>= 1 - < 10
Fatty acids, tall-oil, compds. with oleylamine	85711-55-3 288-315-1 01-2119974148-28	Eye Dam. 1; H318 Skin Sens. 1A; H317 STOT RE 2; H373 (Gastrointestinal tract, Lymph nodes)	< 0,1

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

- General advice : In the case of accident or if you feel unwell, seek medical advice immediately.
When symptoms persist or in all cases of doubt seek medical advice.
- Protection of first-aiders : First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists (see section 8).
- If inhaled : If inhaled, remove to fresh air.
Get medical attention.

SAFETY DATA SHEET

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



arecal Marker USD marking spray white 500 ml

Version	Revision Date:	SDS Number:	Date of last issue: 25.06.2024
5.0	08.11.2024	9613194-00009	Date of first issue: 17.09.2021

- In case of skin contact : In case of contact, immediately flush skin with plenty of water.
Remove contaminated clothing and shoes.
Get medical attention.
Wash clothing before reuse.
Thoroughly clean shoes before reuse.
- In case of eye contact : Flush eyes with water as a precaution.
Get medical attention if irritation develops and persists.
- If swallowed : If swallowed, DO NOT induce vomiting.
Get medical attention if symptoms occur.
Rinse mouth thoroughly with water.

4.2 Most important symptoms and effects, both acute and delayed

- Risks : Repeated exposure may cause skin dryness or cracking.

4.3 Indication of any immediate medical attention and special treatment needed

- Treatment : Treat symptomatically and supportively.
-

SECTION 5: Firefighting measures

5.1 Extinguishing media

- Suitable extinguishing media : Water spray
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 : Flash back possible over considerable distance.
Vapours may form explosive mixtures with air.
Exposure to combustion products may be a hazard to health.
If the temperature rises there is danger of the vessels bursting due to the high vapor pressure.

- Hazardous combustion products : Carbon oxides

5.3 Advice for firefighters

- Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.
Use personal protective equipment.

- Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Use water spray to cool unopened containers.
Remove undamaged containers from fire area if it is safe to do

SAFETY DATA SHEET

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



arecal Marker USD marking spray white 500 ml

Version	Revision Date:	SDS Number:	Date of last issue: 25.06.2024
5.0	08.11.2024	9613194-00009	Date of first issue: 17.09.2021

so.
Evacuate area.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Remove all sources of ignition.
Use personal protective equipment.
Follow safe handling advice (see section 7) and personal protective equipment recommendations (see section 8).

6.2 Environmental precautions

Environmental precautions : Avoid release to the environment.
Prevent further leakage or spillage if safe to do so.
Prevent spreading over a wide area (e.g. by containment or oil barriers).
Retain and dispose of contaminated wash water.
Local authorities should be advised if significant spillages cannot be contained.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Non-sparking tools should be used.
Soak up with inert absorbent material.
Suppress (knock down) gases/vapours/mists with a water spray jet.
For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped, store recovered material in appropriate container.
Clean up remaining materials from spill with suitable absorbent.
Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable.
Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

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

Technical measures : See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

Local/Total ventilation : If advised by assessment of the local exposure potential, use only in an area equipped with explosion-proof exhaust ventila-

SAFETY DATA SHEET

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



arecal Marker USD marking spray white 500 ml

Version	Revision Date:	SDS Number:	Date of last issue: 25.06.2024
5.0	08.11.2024	9613194-00009	Date of first issue: 17.09.2021

- tion.
- Advice on safe handling : For outdoor use only
Do not get on skin or clothing.
Avoid inhalation of vapour or mist.
Do not swallow.
Avoid contact with eyes.
Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Take precautionary measures against static discharges.
Take care to prevent spills, waste and minimize release to the environment.
Do not spray on an open flame or other ignition source.
- Hygiene measures : If exposure to chemical is likely during typical use, provide eye flushing systems and safety showers close to the working place. When using do not eat, drink or smoke. Wash contaminated clothing before re-use.

7.2 Conditions for safe storage, including any incompatibilities

- Requirements for storage areas and containers : Store locked up. Keep in a cool, well-ventilated place. Store in accordance with the particular national regulations. Do not pierce or burn, even after use. Keep cool. Protect from sunlight.
- Advice on common storage : Do not store with the following product types:
Self-reactive substances and mixtures
Organic peroxides
Oxidizing agents
Flammable solids
Pyrophoric liquids
Pyrophoric solids
Self-heating substances and mixtures
Substances and mixtures, which in contact with water, emit flammable gases
Explosives
Gases
- Storage class (TRGS 510) : 2B
- Recommended storage temperature : < 40 °C

7.3 Specific end use(s)

- Specific use(s) : No data available

SAFETY DATA SHEET

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



arecal Marker USD marking spray white 500 ml

Version 5.0 Revision Date: 08.11.2024 SDS Number: 9613194-00009 Date of last issue: 25.06.2024
Date of first issue: 17.09.2021

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis	
Butane	106-97-8	AGW	1.000 ppm 2.400 mg/m ³	DE TRGS 900	
		Peak-limit: excursion factor (category): 4;(II)			
		MAK	1.000 ppm 2.400 mg/m ³	DE DFG MAK	
Peak-limit: excursion factor (category): 4; II					
Further information: Either there are no data for an assessment of damage to the embryo or foetus, including developmental neurotoxicity, or the currently available data are not sufficient for classification in one of the groups A - C					
Propane	74-98-6	AGW	1.000 ppm 1.800 mg/m ³	DE TRGS 900	
		Peak-limit: excursion factor (category): 4;(II)			
		MAK	1.000 ppm 1.800 mg/m ³	DE DFG MAK	
Peak-limit: excursion factor (category): 4; II					
Further information: Either there are no data for an assessment of damage to the embryo or foetus, including developmental neurotoxicity, or the currently available data are not sufficient for classification in one of the groups A - C					
Ethyl acetate	141-78-6	TWA	200 ppm 734 mg/m ³	2017/164/EU	
		Further information: Indicative			
		STEL	400 ppm 1.468 mg/m ³	2017/164/EU	
Further information: Indicative					
		AGW	200 ppm 730 mg/m ³	DE TRGS 900	
		Peak-limit: excursion factor (category): 2;(I)			
		Further information: When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child			
		MAK	200 ppm 750 mg/m ³	DE DFG MAK	
		Peak-limit: excursion factor (category): 2; I			
		Further information: Damage to the embryo or foetus is unlikely when the MAK value or the BAT value is observed			
Isobutane	75-28-5	AGW	1.000 ppm 2.400 mg/m ³	DE TRGS 900	
		Peak-limit: excursion factor (category): 4;(II)			
		MAK	1.000 ppm 2.400 mg/m ³	DE DFG MAK	
Peak-limit: excursion factor (category): 4; II					
Further information: Either there are no data for an assessment of damage to the embryo or foetus, including developmental neurotoxicity, or the currently available data are not sufficient for classification in one of the groups A - C					

SAFETY DATA SHEET

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



arecal Marker USD marking spray white 500 ml

Version 5.0 Revision Date: 08.11.2024 SDS Number: 9613194-00009 Date of last issue: 25.06.2024
Date of first issue: 17.09.2021

Titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 µm]	13463-67-7	AGW (Inhalable fraction)	10 mg/m ³ (Titanium dioxide)	DE TRGS 900
Peak-limit: excursion factor (category): 2;(II)				
Further information: When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child				
		AGW (Alveolate fraction)	1,25 mg/m ³ (Titanium dioxide)	DE TRGS 900
Peak-limit: excursion factor (category): 2;(II)				
Further information: When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child				
		MAK (measured as the alveolate fraction)	0,3 mg/m ³	DE DFG MAK
Peak-limit: excursion factor (category): 8; II				
Further information: Substances that cause cancer in humans or animals or that are considered to be carcinogenic for humans and for which a MAK value can be derived., Damage to the embryo or foetus is unlikely when the MAK value or the BAT value is observed				
Hydrocarbons, C9- C11, n-alkanes, isoalkanes, cyclics, <2% aromatics	Not As- signed	AGW	300 mg/m ³	DE TRGS 900
Peak-limit: excursion factor (category): 2;(II)				
Further information: Group exposure limit for hydrocarbon solvent mixtures				
Hydrocarbons, C9- C10, n-alkanes, isoalkanes, cyclics, <2% aromatics	Not As- signed	AGW	300 mg/m ³	DE TRGS 900
Peak-limit: excursion factor (category): 2;(II)				
Further information: Group exposure limit for hydrocarbon solvent mixtures				
		MAK	50 ppm 300 mg/m ³	DE DFG MAK
Peak-limit: excursion factor (category): 2; II				
Further information: Either there are no data for an assessment of damage to the embryo or foetus, including developmental neurotoxicity, or the currently available data are not sufficient for classification in one of the groups A - C				
Butanone	78-93-3	STEL	300 ppm 900 mg/m ³	2000/39/EC
Further information: Indicative				
		TWA	200 ppm 600 mg/m ³	2000/39/EC
Further information: Indicative				
		AGW	200 ppm 600 mg/m ³	DE TRGS 900
Peak-limit: excursion factor (category): 1;(I)				
Further information: Skin absorption, When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child				

SAFETY DATA SHEET

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



arecal Marker USD marking spray white 500 ml

Version 5.0 Revision Date: 08.11.2024 SDS Number: 9613194-00009 Date of last issue: 25.06.2024
Date of first issue: 17.09.2021

	MAK	200 ppm 600 mg/m ³	DE DFG MAK
	Peak-limit: excursion factor (category): 1; I		
	Further information: Danger of absorption through the skin, Damage to the embryo or foetus is unlikely when the MAK value or the BAT value is observed		

Biological occupational exposure limits

Substance name	CAS-No.	Control parameters	Sampling time	Basis
Butanone	78-93-3	2-butanone: 2 mg/l (Urine)	Immediately after exposure or after working hours	TRGS 903
		2-butanon: 5 mg/l (Urine)	Immediately after exposition or after working hours	DE DFG BAT

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

Substance name	End Use	Exposure routes	Potential health effects	Value
Butanone	Workers	Inhalation	Long-term systemic effects	600 mg/m ³
	Workers	Skin contact	Long-term systemic effects	1161 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	106 mg/m ³
	Workers	Skin contact	Long-term systemic effects	412 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	31 mg/kg bw/day
	Ethyl acetate	Workers	Inhalation	Long-term systemic effects
Workers		Inhalation	Acute systemic effects	1468 mg/m ³
Workers		Inhalation	Long-term local effects	734 mg/m ³
	Workers	Inhalation	Acute local effects	1468 mg/m ³
	Workers	Skin contact	Long-term systemic effects	63 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	367 mg/m ³
	Consumers	Inhalation	Acute systemic effects	734 mg/m ³
	Consumers	Inhalation	Long-term local effects	367 mg/m ³
	Consumers	Inhalation	Acute local effects	734 mg/m ³
	Consumers	Skin contact	Long-term systemic effects	37 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	4,5 mg/kg bw/day
Fatty acids, tall-oil, compds. with oleyla-	Workers	Skin contact	Long-term systemic effects	0,024 mg/kg bw/day

SAFETY DATA SHEET

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



arecal Marker USD marking spray white 500 ml

Version 5.0 Revision Date: 08.11.2024 SDS Number: 9613194-00009 Date of last issue: 25.06.2024
Date of first issue: 17.09.2021

mine				
	Consumers	Skin contact	Long-term systemic effects	0,012 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	0,012 mg/kg bw/day
Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics	Workers	Inhalation	Long-term systemic effects	871 mg/m3
	Workers	Skin contact	Long-term systemic effects	77 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	185 mg/m3
	Consumers	Skin contact	Long-term systemic effects	46 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	46 mg/kg bw/day

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

Substance name	Environmental Compartment	Value
Butanone	Fresh water	55,8 mg/l
	Freshwater - intermittent	55,8 mg/l
	Marine water	55,8 mg/l
	Sewage treatment plant	709 mg/l
	Fresh water sediment	284,74 mg/kg dry weight (d.w.)
	Marine sediment	284,7 mg/kg dry weight (d.w.)
	Soil	22,5 mg/kg dry weight (d.w.)
Ethyl acetate	Oral (Secondary Poisoning)	1000 mg/kg food
	Fresh water	0,24 mg/l
	Marine water	0,024 mg/l
	Intermittent use/release	1,65 mg/l
	Sewage treatment plant	650 mg/l
	Fresh water sediment	1,15 mg/kg dry weight (d.w.)
	Marine sediment	0,115 mg/kg dry weight (d.w.)
Fatty acids, tall-oil, compds. with oleylamine	Soil	0,148 mg/kg dry weight (d.w.)
	Oral (Secondary Poisoning)	200 mg/kg food
	Oral (Secondary Poisoning)	0,47 mg/kg food

8.2 Exposure controls

Engineering measures

Minimize workplace exposure concentrations.

If advised by assessment of the local exposure potential, use only in an area equipped with explosion-proof exhaust ventilation.

Personal protective equipment

SAFETY DATA SHEET

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



arecal Marker USD marking spray white 500 ml

Version	Revision Date:	SDS Number:	Date of last issue: 25.06.2024
5.0	08.11.2024	9613194-00009	Date of first issue: 17.09.2021

- Eye/face protection : Wear the following personal protective equipment:
Safety glasses
Equipment should conform to DIN EN 166
- Hand protection
- Material : Nitrile rubber
Break through time : > 480 min
Glove thickness : 0,38 mm
Directive : Equipment should conform to DIN EN 374
- Remarks : Choose gloves to protect hands against chemicals depending on the concentration and quantity of the hazardous substance and specific to place of work. For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Wash hands before breaks and at the end of workday.
- Skin and body protection : Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential.
Wear the following personal protective equipment:
If assessment demonstrates that there is a risk of explosive atmospheres or flash fires, use flame retardant antistatic protective clothing.
Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc).
- Respiratory protection : If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection.
Equipment should conform to DIN EN 137
- Filter type : Self-contained breathing apparatus
-

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

- Physical state : Aerosol containing a liquefied gas
- Propellant : Butane, Propane, Isobutane
- Colour : white
- Odour : aliphatic
- Odour Threshold : No data available

SAFETY DATA SHEET

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



arecal Marker USD marking spray white 500 ml

Version	Revision Date:	SDS Number:	Date of last issue: 25.06.2024
5.0	08.11.2024	9613194-00009	Date of first issue: 17.09.2021

Melting point/freezing point : No data available

Initial boiling point and boiling range : Not applicable

Flammability (solid, gas) : Extremely flammable aerosol.

Upper explosion limit / Upper flammability limit : No data available

Lower explosion limit / Lower flammability limit : No data available

Flash point : Not applicable

Auto-ignition temperature : No data available

Decomposition temperature : The substance or mixture is not classified self-reactive.

pH : substance/mixture is non-soluble (in water)

Viscosity
Viscosity, kinematic : Not applicable

Solubility(ies)
Water solubility : insoluble

Partition coefficient: n-octanol/water : Not applicable

Vapour pressure : Not applicable

Relative density : No data available

Density : < 1 g/cm³

SAFETY DATA SHEET

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



arecal Marker USD marking spray white 500 ml

Version	Revision Date:	SDS Number:	Date of last issue: 25.06.2024
5.0	08.11.2024	9613194-00009	Date of first issue: 17.09.2021

Relative vapour density : Not applicable

Particle characteristics
Particle size : Not applicable

9.2 Other information

Explosives : Not explosive

Oxidizing properties : The substance or mixture is not classified as oxidizing.

Evaporation rate : Not applicable

SECTION 10: Stability and reactivity

10.1 Reactivity

Not classified as a reactivity hazard.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous reactions : Extremely flammable aerosol.
Vapours may form explosive mixture with air.
If the temperature rises there is danger of the vessels bursting due to the high vapor pressure.
Can react with strong oxidizing agents.

10.4 Conditions to avoid

Conditions to avoid : Heat, flames and sparks.

10.5 Incompatible materials

Materials to avoid : Oxidizing agents

10.6 Hazardous decomposition products

No hazardous decomposition products are known.

SECTION 11: Toxicological information

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

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

SAFETY DATA SHEET

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



arecal Marker USD marking spray white 500 ml

Version	Revision Date:	SDS Number:	Date of last issue: 25.06.2024
5.0	08.11.2024	9613194-00009	Date of first issue: 17.09.2021

Acute toxicity

Not classified based on available information.

Components:

Ethyl acetate:

- Acute oral toxicity : LD50 (Rat): > 5.000 mg/kg
- Acute inhalation toxicity : LC50 (Rat): > 22,5 mg/l
Exposure time: 6 h
Test atmosphere: vapour
Assessment: The substance or mixture has no acute inhalation toxicity
- Acute dermal toxicity : LD50 (Rabbit): > 20.000 mg/kg

Titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter $\leq 10 \mu\text{m}$]:

- Acute oral toxicity : LD50 (Rat): > 5.000 mg/kg
- Acute inhalation toxicity : LC50 (Rat): > 6,82 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity

Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics:

- Acute oral toxicity : LD50 (Rat): > 5.000 mg/kg
Remarks: Based on data from similar materials
- Acute inhalation toxicity : LC50 (Rat): > 20 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Remarks: Based on data from similar materials
- Acute dermal toxicity : LD50 (Rabbit): > 2.000 mg/kg
Remarks: Based on data from similar materials

Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics:

- Acute oral toxicity : LD50 (Rat): > 5.000 mg/kg
Remarks: Based on data from similar materials
- Acute inhalation toxicity : LC50 (Rat): > 4.951 mg/m³
Exposure time: 4 h
Test atmosphere: vapour
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: Based on data from similar materials
- Acute dermal toxicity : LD50 (Rabbit): > 3.160 mg/kg
Assessment: The substance or mixture has no acute dermal

SAFETY DATA SHEET

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



arecal Marker USD marking spray white 500 ml

Version	Revision Date:	SDS Number:	Date of last issue: 25.06.2024
5.0	08.11.2024	9613194-00009	Date of first issue: 17.09.2021

toxicity
Remarks: Based on data from similar materials

Butanone:

Acute oral toxicity : LD50 (Rat): > 2.000 - 5.000 mg/kg
Remarks: Based on data from similar materials

Acute inhalation toxicity : LC50 (Rat): > 25,5 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Method: OECD Test Guideline 436
Remarks: Based on data from similar materials

Acute dermal toxicity : LD50 (Rabbit): > 5.000 mg/kg

Fatty acids, tall-oil, compds. with oleylamine:

Acute oral toxicity : LD50 (Rat): > 2.000 mg/kg
Method: OECD Test Guideline 423
Assessment: The substance or mixture has no acute oral toxicity

Skin corrosion/irritation

Repeated exposure may cause skin dryness or cracking.

Components:

Ethyl acetate:

Species : Rabbit
Result : No skin irritation

Assessment : Repeated exposure may cause skin dryness or cracking.

Titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter $\leq 10 \mu\text{m}$]:

Species : Rabbit
Result : No skin irritation

Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics:

Species : Rabbit
Result : Mild skin irritation
Remarks : Based on data from similar materials

Assessment : Repeated exposure may cause skin dryness or cracking.

Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics:

Species : Rabbit
Result : Mild skin irritation

Assessment : Repeated exposure may cause skin dryness or cracking.

SAFETY DATA SHEET

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



arecal Marker USD marking spray white 500 ml

Version	Revision Date:	SDS Number:	Date of last issue: 25.06.2024
5.0	08.11.2024	9613194-00009	Date of first issue: 17.09.2021

Butanone:

Assessment : Repeated exposure may cause skin dryness or cracking.

Species : Rabbit
Method : OECD Test Guideline 404
Result : No skin irritation
Remarks : Based on data from similar materials

Fatty acids, tall-oil, compds. with oleylamine:

Species : reconstructed human epidermis (RhE)
Method : OECD Test Guideline 439

Result : No skin irritation

Serious eye damage/eye irritation

Not classified based on available information.

Components:

Ethyl acetate:

Species : Rabbit
Method : OECD Test Guideline 405
Result : No eye irritation

Titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter $\leq 10 \mu\text{m}$]:

Species : Rabbit
Result : No eye irritation

Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics:

Species : Rabbit
Method : OECD Test Guideline 405
Result : No eye irritation
Remarks : Based on data from similar materials

Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics:

Species : Rabbit
Method : OECD Test Guideline 405
Result : No eye irritation
Remarks : Based on data from similar materials

Butanone:

Species : Rabbit
Method : OECD Test Guideline 405
Result : Irritation to eyes, reversing within 21 days

SAFETY DATA SHEET

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



arecal Marker USD marking spray white 500 ml

Version	Revision Date:	SDS Number:	Date of last issue: 25.06.2024
5.0	08.11.2024	9613194-00009	Date of first issue: 17.09.2021

Fatty acids, tall-oil, compds. with oleylamine:

Species : Rabbit
Method : OECD Test Guideline 405
Result : Irreversible effects on the eye

Respiratory or skin sensitisation

Skin sensitisation

Not classified based on available information.

Respiratory sensitisation

Not classified based on available information.

Components:

Ethyl acetate:

Test Type : Maximisation Test
Exposure routes : Skin contact
Species : Guinea pig
Method : OECD Test Guideline 406
Result : negative

Titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter $\leq 10 \mu\text{m}$]:

Test Type : Local lymph node assay (LLNA)
Exposure routes : Skin contact
Species : Mouse
Result : negative

Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics:

Test Type : Maximisation Test
Exposure routes : Skin contact
Species : Guinea pig
Result : negative
Remarks : Based on data from similar materials

Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics:

Test Type : Maximisation Test
Exposure routes : Skin contact
Species : Guinea pig
Result : negative
Remarks : Based on data from similar materials

Butanone:

Test Type : Buehler Test
Exposure routes : Skin contact
Species : Guinea pig
Method : OECD Test Guideline 406
Result : negative

SAFETY DATA SHEET

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



arecal Marker USD marking spray white 500 ml

Version	Revision Date:	SDS Number:	Date of last issue: 25.06.2024
5.0	08.11.2024	9613194-00009	Date of first issue: 17.09.2021

Fatty acids, tall-oil, compds. with oleylamine:

Test Type	: Local lymph node assay (LLNA)
Exposure routes	: Skin contact
Species	: Mouse
Method	: OECD Test Guideline 429
Result	: positive
Assessment	: Probability or evidence of high skin sensitisation rate in humans

Germ cell mutagenicity

Not classified based on available information.

Components:

Ethyl acetate:

Genotoxicity in vitro	: Test Type: Bacterial reverse mutation assay (AMES) Result: negative
	Test Type: Chromosome aberration test in vitro Result: negative
	Test Type: In vitro mammalian cell gene mutation test Result: negative Remarks: Based on data from similar materials
Genotoxicity in vivo	: Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay) Species: Hamster Application Route: Ingestion Result: negative

Titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter $\leq 10 \mu\text{m}$]:

Genotoxicity in vitro	: Test Type: Bacterial reverse mutation assay (AMES) Result: negative
Genotoxicity in vivo	: Test Type: In vivo micronucleus test Species: Mouse Result: negative

Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics:

Genotoxicity in vitro	: Test Type: Bacterial reverse mutation assay (AMES) Method: OECD Test Guideline 471 Result: negative Remarks: Based on data from similar materials
	Test Type: In vitro mammalian cell gene mutation test Result: negative Remarks: Based on data from similar materials

SAFETY DATA SHEET

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



arecal Marker USD marking spray white 500 ml

Version	Revision Date:	SDS Number:	Date of last issue: 25.06.2024
5.0	08.11.2024	9613194-00009	Date of first issue: 17.09.2021

Test Type: Chromosome aberration test in vitro
Result: negative
Remarks: Based on data from similar materials

Genotoxicity in vivo : Test Type: Rodent dominant lethal test (germ cell) (in vivo)
Species: Rat
Application Route: inhalation (vapour)
Result: negative

Germ cell mutagenicity- Assessment : Classified based on benzene content < 0.1% (Regulation (EC) 1272/2008, Annex VI, Part 3, Note P)

Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics:

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

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Application Route: Ingestion
Result: negative

Germ cell mutagenicity- Assessment : Classified based on benzene content < 0.1% (Regulation (EC) 1272/2008, Annex VI, Part 3, Note P)

Butanone:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Test Type: In vitro mammalian cell gene mutation test
Result: negative

Test Type: Chromosome aberration test in vitro
Result: negative

Test Type: DNA damage and repair, unscheduled DNA synthesis in mammalian cells (in vitro)
Result: negative

Test Type: Saccharomyces cerevisiae, gene mutation assay (in vitro)
Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Application Route: Intraperitoneal injection
Result: negative

Fatty acids, tall-oil, compds. with oleylamine:

SAFETY DATA SHEET

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



arecal Marker USD marking spray white 500 ml

Version	Revision Date:	SDS Number:	Date of last issue: 25.06.2024
5.0	08.11.2024	9613194-00009	Date of first issue: 17.09.2021

Genotoxicity in vitro : Test Type: Chromosome aberration test in vitro
Method: OECD Test Guideline 473
Result: negative

Carcinogenicity

Not classified based on available information.

Components:

Titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter $\leq 10 \mu\text{m}$]:

Species : Rat
Application Route : inhalation (dust/mist/fume)
Exposure time : 2 Years
Method : OECD Test Guideline 453
Result : positive
Remarks : The mechanism or mode of action may not be relevant in humans.

Carcinogenicity - Assessment : Limited evidence of carcinogenicity in inhalation studies with animals.

Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics:

Carcinogenicity - Assessment : Classified based on benzene content < 0.1% (Regulation (EC) 1272/2008, Annex VI, Part 3, Note P)

Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics:

Species : Rat
Application Route : inhalation (vapour)
Exposure time : 105 weeks
Result : negative
Remarks : Based on data from similar materials

Carcinogenicity - Assessment : Classified based on benzene content < 0.1% (Regulation (EC) 1272/2008, Annex VI, Part 3, Note P)

Reproductive toxicity

Not classified based on available information.

Components:

Ethyl acetate:

Effects on fertility : Test Type: Two-generation reproduction toxicity study
Species: Mouse
Application Route: Ingestion
Result: negative
Remarks: Based on data from similar materials

Species: Rat
Application Route: inhalation (vapour)

SAFETY DATA SHEET

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



arecal Marker USD marking spray white 500 ml

Version	Revision Date:	SDS Number:	Date of last issue: 25.06.2024
5.0	08.11.2024	9613194-00009	Date of first issue: 17.09.2021

Result: negative

Effects on foetal development : Test Type: Embryo-foetal development
Species: Rat
Application Route: Inhalation
Result: negative
Remarks: Based on data from similar materials

Test Type: Embryo-foetal development
Species: Mouse
Application Route: Ingestion
Result: negative
Remarks: Based on data from similar materials

Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics:

Effects on fertility : Test Type: One-generation reproduction toxicity study
Species: Rat
Application Route: Ingestion
Result: negative
Remarks: Based on data from similar materials

Effects on foetal development : Test Type: Embryo-foetal development
Species: Rat
Application Route: inhalation (vapour)
Result: negative
Remarks: Based on data from similar materials

Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics:

Effects on fertility : Test Type: Reproduction/Developmental toxicity screening test
Species: Rat
Application Route: inhalation (vapour)
Result: negative

Effects on foetal development : Test Type: Embryo-foetal development
Species: Rat
Application Route: inhalation (vapour)
Result: negative
Remarks: Based on data from similar materials

Butanone:

Effects on fertility : Test Type: Two-generation reproduction toxicity study
Species: Rat
Application Route: Ingestion
Result: negative
Remarks: Based on data from similar materials

Effects on foetal development : Test Type: Embryo-foetal development
Species: Rat
Application Route: Inhalation
Method: OECD Test Guideline 414

SAFETY DATA SHEET

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



arecal Marker USD marking spray white 500 ml

Version	Revision Date:	SDS Number:	Date of last issue: 25.06.2024
5.0	08.11.2024	9613194-00009	Date of first issue: 17.09.2021

Result: negative

Fatty acids, tall-oil, compds. with oleylamine:

Effects on fertility : Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 422
Result: negative
Remarks: Based on data from similar materials

Effects on foetal development : Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 422
Result: negative
Remarks: Based on data from similar materials

STOT - single exposure

Not classified based on available information.

Product:

Assessment : No significant health effects observed in animals at concentrations of 2000 mg/kg bw or less

Components:

Ethyl acetate:

Assessment : May cause drowsiness or dizziness.

Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics:

Assessment : May cause drowsiness or dizziness.

Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics:

Assessment : May cause drowsiness or dizziness.

Butanone:

Assessment : May cause drowsiness or dizziness.

STOT - repeated exposure

Not classified based on available information.

Components:

Fatty acids, tall-oil, compds. with oleylamine:

Exposure routes : Ingestion
Target Organs : Gastrointestinal tract, Lymph nodes

SAFETY DATA SHEET

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



arecal Marker USD marking spray white 500 ml

Version	Revision Date:	SDS Number:	Date of last issue: 25.06.2024
5.0	08.11.2024	9613194-00009	Date of first issue: 17.09.2021

Assessment : Shown to produce significant health effects in animals at concentrations of >10 to 100 mg/kg bw.

Repeated dose toxicity

Components:

Ethyl acetate:

Species : Rat
NOAEL : 900 mg/kg
LOAEL : 3.600 mg/kg
Application Route : Ingestion
Exposure time : 90 Days

Species : Rat
NOAEL : 1,28 mg/l
LOAEL : 2,75 mg/kg
Application Route : inhalation (vapour)
Exposure time : 94 Days

Titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter $\leq 10 \mu\text{m}$]:

Species : Rat
NOAEL : 24.000 mg/kg
Application Route : Ingestion
Exposure time : 28 Days

Species : Rat
NOAEL : 10 mg/m³
Application Route : inhalation (dust/mist/fume)
Exposure time : 2 yr

Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics:

Species : Rat
NOAEL : > 100 mg/kg
Application Route : Ingestion
Exposure time : 13 Weeks
Remarks : Based on data from similar materials

Species : Rat
NOAEL : > 1 mg/l
Application Route : inhalation (vapour)
Exposure time : 90 Days
Remarks : Based on data from similar materials

Species : Rat
LOAEL : 500 mg/kg
Application Route : Skin contact
Exposure time : 28 Days

Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics:

SAFETY DATA SHEET

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



arecal Marker USD marking spray white 500 ml

Version	Revision Date:	SDS Number:	Date of last issue: 25.06.2024
5.0	08.11.2024	9613194-00009	Date of first issue: 17.09.2021

Species : Rat
NOAEL : 10.186 mg/m³
Application Route : inhalation (vapour)
Exposure time : 13 Weeks

Butanone:

Species : Rat
NOAEL : 14,84 mg/l
Application Route : inhalation (vapour)
Exposure time : 90 Days
Method : OECD Test Guideline 413

Fatty acids, tall-oil, compds. with oleylamine:

Species : Rat
NOAEL : 7,1 mg/kg
Application Route : Ingestion
Exposure time : 54 Days
Method : OECD Test Guideline 422
Remarks : Based on data from similar materials

Aspiration toxicity

Not classified based on available information.

Components:

Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics:

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.

Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics:

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.

Butanone:

The substance or mixture causes concern owing to the assumption that it causes a human aspiration toxicity hazard.

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.

SAFETY DATA SHEET

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



arecal Marker USD marking spray white 500 ml

Version	Revision Date:	SDS Number:	Date of last issue: 25.06.2024
5.0	08.11.2024	9613194-00009	Date of first issue: 17.09.2021

Method: OECD Test Guideline 209

Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics:

Toxicity to fish : LL50 (Oncorhynchus mykiss (rainbow trout)): > 1.000 mg/l
Exposure time: 96 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EL50 (Daphnia magna (Water flea)): > 1.000 mg/l
Exposure time: 48 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : EL50 (Pseudokirchneriella subcapitata (green algae)): > 1.000 mg/l
Exposure time: 72 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 201

NOELR (Pseudokirchneriella subcapitata (green algae)): 100 mg/l
Exposure time: 72 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 201

Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics:

Toxicity to fish : LL50 (Oncorhynchus mykiss (rainbow trout)): > 10 - 30 mg/l
Exposure time: 96 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 203
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates : EL50 (Daphnia magna (Water flea)): > 22 - 46 mg/l
Exposure time: 48 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 202
Remarks: Based on data from similar materials

Toxicity to algae/aquatic plants : EL50 (Pseudokirchneriella subcapitata (green algae)): > 1.000 mg/l
Exposure time: 72 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

NOELR (Pseudokirchneriella subcapitata (green algae)): 1 mg/l
Exposure time: 72 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

SAFETY DATA SHEET

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



arecal Marker USD marking spray white 500 ml

Version	Revision Date:	SDS Number:	Date of last issue: 25.06.2024
5.0	08.11.2024	9613194-00009	Date of first issue: 17.09.2021

Butanone:

- Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 2.993 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 308 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202
- Toxicity to algae/aquatic plants : ErC50 (Pseudokirchneriella subcapitata (green algae)): 2.029 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 201
- NOEC (Pseudokirchneriella subcapitata (green algae)): 1.240 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 201

Fatty acids, tall-oil, compds. with oleylamine:

- Toxicity to fish : LL50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l
Exposure time: 96 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 203
- Toxicity to daphnia and other aquatic invertebrates : EL50 (Daphnia magna (Water flea)): 15,2 mg/l
Exposure time: 48 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 202
- Toxicity to algae/aquatic plants : EL50 (Pseudokirchneriella subcapitata (green algae)): 7 mg/l
Exposure time: 72 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 201
- EL10 (Pseudokirchneriella subcapitata (green algae)): 6 mg/l
Exposure time: 72 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 201
- Toxicity to microorganisms : EC50 : > 1.000 mg/l
Exposure time: 3 h
Method: OECD Test Guideline 209

12.2 Persistence and degradability

Components:

Ethyl acetate:

- Biodegradability : Result: Readily biodegradable.

SAFETY DATA SHEET

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



arecal Marker USD marking spray white 500 ml

Version	Revision Date:	SDS Number:	Date of last issue: 25.06.2024
5.0	08.11.2024	9613194-00009	Date of first issue: 17.09.2021

Biodegradation: 69 %
Exposure time: 20 d

Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 80 %
Exposure time: 28 d
Method: OECD Test Guideline 301F

Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 89 %
Exposure time: 28 d
Method: OECD Test Guideline 301F
Remarks: Based on data from similar materials

Butanone:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 98 %
Exposure time: 28 d
Method: OECD Test Guideline 301D

Fatty acids, tall-oil, compds. with oleylamine:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 87 %
Exposure time: 28 d
Method: OECD Test Guideline 301F

12.3 Bioaccumulative potential

Components:

Ethyl acetate:

Bioaccumulation : Species: Leuciscus idus (Golden orfe)
Bioconcentration factor (BCF): 30

Partition coefficient: n-
octanol/water : log Pow: 0,68

Butanone:

Partition coefficient: n-
octanol/water : log Pow: 0,3

Fatty acids, tall-oil, compds. with oleylamine:

Partition coefficient: n-
octanol/water : log Pow: 2,6

SAFETY DATA SHEET

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



arecal Marker USD marking spray white 500 ml

Version	Revision Date:	SDS Number:	Date of last issue: 25.06.2024
5.0	08.11.2024	9613194-00009	Date of first issue: 17.09.2021

12.4 Mobility in soil

No data available

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

No data available

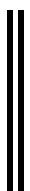
SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : Dispose of in accordance with local regulations. According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities. Do not dispose of waste into sewer.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal. Empty containers retain residue and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury and/or death. If not otherwise specified: Dispose of as unused product. Please ensure aerosol cans are sprayed completely empty (including propellant)

Waste Code : The following Waste Codes are only suggestions:



used product
16 05 04*, gases in pressure containers (including halons)
containing hazardous substances

unused product
16 05 04*, gases in pressure containers (including halons)

SAFETY DATA SHEET

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



arecal Marker USD marking spray white 500 ml

Version	Revision Date:	SDS Number:	Date of last issue: 25.06.2024
5.0	08.11.2024	9613194-00009	Date of first issue: 17.09.2021



containing hazardous substances

uncleaned packagings
15 01 10*, packaging containing residues of or contaminated
by hazardous substances

Acc. Packaging Act properly emptied packaging:
Properly emptied, non-contaminated packaging of non-
hazardous products can be supplied to a system for the col-
lection of sales packaging.

SECTION 14: Transport information

14.1 UN number or ID number

ADN	:	UN 1950
ADR	:	UN 1950
RID	:	UN 1950
IMDG	:	UN 1950
IATA	:	UN 1950

14.2 UN proper shipping name

ADN	:	AEROSOLS
ADR	:	AEROSOLS
RID	:	AEROSOLS
IMDG	:	AEROSOLS
IATA	:	Aerosols, flammable

14.3 Transport hazard class(es)

	Class	Subsidiary risks
ADN	: 2	2.1
ADR	: 2	2.1
RID	: 2	2.1
IMDG	: 2.1	
IATA	: 2.1	

14.4 Packing group

ADN	
Packing group	: Not assigned by regulation
Classification Code	: 5F
Labels	: 2.1
ADR	
Packing group	: Not assigned by regulation
Classification Code	: 5F

SAFETY DATA SHEET

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



arecal Marker USD marking spray white 500 ml

Version	Revision Date:	SDS Number:	Date of last issue: 25.06.2024
5.0	08.11.2024	9613194-00009	Date of first issue: 17.09.2021

Labels : 2.1
Tunnel restriction code : (D)

RID

Packing group : Not assigned by regulation
Classification Code : 5F
Hazard Identification Number : 23
Labels : 2.1

IMDG

Packing group : Not assigned by regulation
Labels : 2.1
EmS Code : F-D, S-U

IATA (Cargo)

Packing instruction (cargo aircraft) : 203
Packing instruction (LQ) : Y203
Packing group : Not assigned by regulation
Labels : Flammable Gas

IATA (Passenger)

Packing instruction (passenger aircraft) : 203
Packing instruction (LQ) : Y203
Packing group : Not assigned by regulation
Labels : Flammable Gas

14.5 Environmental hazards

ADN

Environmentally hazardous : no

ADR

Environmentally hazardous : no

RID

Environmentally hazardous : no

IMDG

Marine pollutant : no

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

Remarks : 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 :

SAFETY DATA SHEET

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



arecal Marker USD marking spray white 500 ml

Version	Revision Date:	SDS Number:	Date of last issue: 25.06.2024
5.0	08.11.2024	9613194-00009	Date of first issue: 17.09.2021

the market and use of certain dangerous substances,
mixtures and articles (Annex XVII)

Substance(s) or mixture(s) are listed here according to their appearance in the regulation, irrespective of their use/purpose or the conditions of the restriction. Please refer to the conditions in corresponding Regulation to determine whether an entry is applicable to the placing on the market or not.

Conditions of restriction for the following entries should be considered: Number on list 75: If you intend to use this product as tattoo ink, please contact your vendor.

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

Regulation (EC) on substances that deplete the ozone layer : Not applicable

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

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

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.

		Quantity 1	Quantity 2
18	Liquefied flammable gases (including LPG) and natural gas	50 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 oil blending streams), (d) heavy fuel oils (e) alternative fuels serving the same purposes and with similar properties as regards flammability and environ-	2.500 t	25.000 t

SAFETY DATA SHEET

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



arecal Marker USD marking spray white 500 ml

Version	Revision Date:	SDS Number:	Date of last issue: 25.06.2024
5.0	08.11.2024	9613194-00009	Date of first issue: 17.09.2021

mental hazards as the
products referred to in
points (a) to (d)

P3a FLAMMABLE AEROSOLS 150 t 500 t

Water hazard class (Germany) : WGK 2 obviously hazardous to water
Classification according to AwSV, Annex 1 (5.2)

TA Luft List (Germany) : 5.2.1: Total dust:
Not applicable
5.2.2: Inorganic substances in powdered form:
Not applicable
5.2.4: Inorganic substances in gaseous form:
Not applicable
5.2.5: Organic Substances:
Not applicable
5.2.7.1.1: Carcinogenic substance:
Not applicable
5.2.7.1.1: Quartz fine dust PM4:
Not applicable
5.2.7.1.1: Formaldehyde:
Not applicable
5.2.7.1.1: fibres:
Not applicable
5.2.7.1.2: Germ cell mutagens:
Not applicable
5.2.7.1.3: Substances toxic to reproduction:
Not applicable
5.2.7.2: Poorly degradable, easily enrichable and highly toxic
organic substances:
Not applicable

Volatile organic compounds : Directive 2010/75/EU of 24 November 2010 on industrial
emissions (integrated pollution prevention and control)
Volatile organic compounds (VOC) content: 65 %, 539 g/l

Other regulations:

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

15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

Other information : Items where changes have been made to the previous version
are highlighted in the body of this document by two vertical
lines.

SAFETY DATA SHEET

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



arecal Marker USD marking spray white 500 ml

Version	Revision Date:	SDS Number:	Date of last issue: 25.06.2024
5.0	08.11.2024	9613194-00009	Date of first issue: 17.09.2021

Full text of H-Statements

H225	: Highly flammable liquid and vapour.
H226	: Flammable liquid and vapour.
H304	: May be fatal if swallowed and enters airways.
H317	: May cause an allergic skin reaction.
H318	: Causes serious eye damage.
H319	: Causes serious eye irritation.
H336	: May cause drowsiness or dizziness.
H351	: Suspected of causing cancer if inhaled.
H373	: May cause damage to organs through prolonged or repeated exposure.
H412	: Harmful to aquatic life with long lasting effects.
EUH066	: Repeated exposure may cause skin dryness or cracking.

Full text of other abbreviations

Aquatic Chronic	: Long-term (chronic) aquatic hazard
Asp. Tox.	: Aspiration hazard
Carc.	: Carcinogenicity
Eye Dam.	: Serious eye damage
Eye Irrit.	: Eye irritation
Flam. Liq.	: Flammable liquids
Skin Sens.	: Skin sensitisation
STOT RE	: Specific target organ toxicity - repeated exposure
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
2017/164/EU	: Europe. Commission Directive 2017/164/EU establishing a fourth list of indicative occupational exposure limit values
DE DFG BAT	: Germany. MAK BAT Annex XIII
DE DFG MAK	: Germany. MAK BAT Annex IIa
DE TRGS 900	: Germany. TRGS 900 - Occupational exposure limit values.
TRGS 903	: TRGS 903 - Biological limit values
2000/39/EC / TWA	: Limit Value - eight hours
2000/39/EC / STEL	: Short term exposure limit
2017/164/EU / STEL	: Short term exposure limit
2017/164/EU / TWA	: Limit Value - eight hours
DE DFG MAK / MAK	: MAK value
DE TRGS 900 / AGW	: 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 - Interna-

SAFETY DATA SHEET

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



arecal Marker USD marking spray white 500 ml

Version	Revision Date:	SDS Number:	Date of last issue: 25.06.2024
5.0	08.11.2024	9613194-00009	Date of first issue: 17.09.2021

tional 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

Sources of key data used to compile the Safety Data Sheet : Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, <http://echa.europa.eu/>

Classification of the mixture:

Aerosol 1

H222, H229

Classification procedure:

Based on product data or assessment

Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

DE / EN