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

1.1 Product identifier

arecal marker usd blau
Article number: 0897383500

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

1.2.1 Relevant uses

Varnish paint

1.2.2 Uses advised against

None known.

1.3 Details of the supplier of the safety data sheet

Company

Kellner & Kunz AG
Boschstr. 37
4600 Wels / AUSTRIA
Phone 0043-7242-484-0
Fax 0043-7242-484-924
Homepage www.reca.co.at
E-mail info@reca.co.at

Address enquiries to

Technical information info@reca.co.at

Safety Data Sheet sdb@chemiebuero.de

1.4 Emergency telephone number

Advisory body +43 (0) 1 406 43 43 (24h)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture [REGULATION (EC) No 1272/2008]

Aerosol 1: H222 Extremely flammable aerosol. H229 Pressurised container: May burst if heated.
Eye Irrit. 2: H319 Causes serious eye irritation.
STOT SE 3: H336 May cause drowsiness or dizziness.

2.2 Label elements

The product is required to be labelled in accordance with regulation (EC) No 1272/2008 (CLP).

Hazard pictograms

Signal word DANGER

Contains: Ethyl acetate

Hazard statements

H222 Extremely flammable aerosol.
H229 Pressurised container: May burst if heated.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.

Precautionary statements

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.
P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C / 122°F.
P261 Avoid breathing vapours / spray.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear eye protection / face protection.
P501 Dispose of contents/container in accordance with local/national regulation.

Special labelling EUH066 Repeated exposure may cause skin dryness or cracking.

2.3 Other hazards

Environmental hazards Does not contain any PBT or vPvB substances.

Other hazards none

SECTION 3: Composition / Information on ingredients

Product-type:

3.2 The product is a mixture.

Range [%]	Substance
10 - <25	Propane
	CAS: 74-98-6, EINECS/ELINCS: 200-827-9, EU-INDEX: 601-003-00-5, Reg-No.: 01-2119486944-21-XXXX
	GHS/CLP: Flam. Gas 1: H220 - Press. Gas: H280
10 - <25	Ethyl acetate
	CAS: 141-78-6, EINECS/ELINCS: 205-500-4, EU-INDEX: 607-022-00-5, Reg-No.: 01-2119475103-46-XXXX
	GHS/CLP: Flam. Liq. 2: H225 - Eye Irrit. 2: H319 - STOT SE 3: H336
10 - <25	iso-Butane
	CAS: 75-28-5, EINECS/ELINCS: 200-857-2, EU-INDEX: 601-004-00-0, Reg-No.: 01-2119485395-27-XXXX
	GHS/CLP: Flam. Gas 1: H220 - Press. Gas: H280
10 - <25	Butane
	CAS: 106-97-8, EINECS/ELINCS: 203-448-7, EU-INDEX: 601-004-00-0, Reg-No.: 01-2119474691-32-XXXX
	GHS/CLP: Flam. Gas 1: H220 - Press. Gas: H280
2,5 - <10	Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, < 2% aromatics
	EINECS/ELINCS: 927-241-2, Reg-No.: 01-2119471843-32-XXXX
	GHS/CLP: Flam. Liq. 3: H226 - Asp. Tox. 1: H304 - - STOT SE 3: H336 - Aquatic Chronic 3: H412
2,5 - <10	Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, < 2% aromatics
	CAS: 64742-47-8, EINECS/ELINCS: 919-857-5, EU-INDEX: 649-327-00-6, Reg-No.: 01-2119463258-33-XXXX
	GHS/CLP: Flam. Liq. 3: H226 - Asp. Tox. 1: H304 - STOT SE 3: H336

Comment on component parts Substances of Very High Concern - SVHC: substances are not contained or are below 0.1%.
For full text of H-statements: see SECTION 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General information Take off contaminated clothing and wash before reuse.

Inhalation Ensure supply of fresh air.
In the event of symptoms seek medical treatment.

Skin contact When in contact with the skin, clean with soap and water.
Consult a doctor if skin irritation persists.

Eye contact Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.

Ingestion Consult a doctor immediately.

4.2 Most important symptoms and effects, both acute and delayed

Irritant effects

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media Foam, dry powder, water spray jet, carbon dioxide.

Extinguishing media that must not be used Full water jet.

5.2 Special hazards arising from the substance or mixture

In the event of fire the following can be released:
Carbon monoxide (CO)
Not combusted hydrocarbons.
Bursting aerosols can be forcibly projected from a fire.

5.3 Advice for firefighters

Use self-contained breathing apparatus.

Cool containers at risk with water spray jet.
Fire residues and contaminated firefighting water must be disposed of in accordance within the local regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Keep away from all sources of ignition.
Ensure adequate ventilation.

6.2 Environmental precautions

Do not discharge into the drains/surface waters/groundwater.
In case the product spills into drains/surface waters/groundwater, immediately inform the authorities.

6.3 Methods and material for containment and cleaning up

Take up mechanically.
Take up residues with absorbent material (f.ex. diatomaceous earth).
Dispose of absorbed material in accordance within the regulations.

6.4 Reference to other sections

See SECTION 8+13

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Use only in well-ventilated areas.

Do not spray on a naked flame or any incandescent material. Keep away from sources of ignition - No smoking.
Vapours/spray can form an explosive mixture with air.

Do not eat, drink, smoke or take drugs at work.
Take off contaminated clothing and wash before reuse.
Wash hands before breaks and after work.
Use barrier skin cream.

7.2 Conditions for safe storage, including any incompatibilities

Provide solvent-resistant and impermeable floor.

Do not store together with oxidizing agents.

Keep in a cool place, heat causes increase in pressure and risk of bursting.
Protect from heat/overheating and from sun.

7.3 Specific end use(s)

See product use, SECTION 1.2

SECTION 8: Exposure controls / personal protection

8.1 Control parameters

Ingredients with occupational exposure limits to be monitored (GB)

Substance
Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, < 2% aromatics
CAS: 64742-47-8, EINECS/ELINCS: 919-857-5, EU-INDEX: 649-327-00-6, Reg-No.: 01-2119463258-33-XXXX
Long-term exposure: 100 ppm, 525 mg/m³, OSHA
Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, < 2% aromatics
EINECS/ELINCS: 927-241-2, Reg-No.: 01-2119471843-32-XXXX
Long-term exposure: 800 mg/m³
Butane
CAS: 106-97-8, EINECS/ELINCS: 203-448-7, EU-INDEX: 601-004-00-0, Reg-No.: 01-2119474691-32-XXXX
Long-term exposure: 600 ppm, 1450 mg/m³
Short-term exposure (15-minute): 750 ppm, 1810 mg/m³
iso-Butane
CAS: 75-28-5, EINECS/ELINCS: 200-857-2, EU-INDEX: 601-004-00-0, Reg-No.: 01-2119485395-27-XXXX
Long-term exposure: 600 ppm, 1450 mg/m³, (Butane)
Short-term exposure (15-minute): 750 ppm, 1810 mg/m³
Ethyl acetate
CAS: 141-78-6, EINECS/ELINCS: 205-500-4, EU-INDEX: 607-022-00-5, Reg-No.: 01-2119475103-46-XXXX
Long-term exposure: 200 ppm, 730 mg/m³
Short-term exposure (15-minute): 400 ppm, 1460 mg/m³

Ingredients with occupational exposure limits to be monitored (EU)

Substance / EC LIMIT VALUES
Ethyl acetate
CAS: 141-78-6, EINECS/ELINCS: 205-500-4, EU-INDEX: 607-022-00-5, Reg-No.: 01-2119475103-46-XXXX
Eight hours: 200 ppm, 734 mg/m³
Short-term (15-minute): 400 ppm, 1468 mg/m³

DNEL

Substance
Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, < 2% aromatics
Industrial, inhalative, Long-term - systemic effects: 871 mg/m³.
Industrial, dermal, Long-term - systemic effects: 77 mg/kg bw/day.
general population, inhalative, Long-term - systemic effects: 185 mg/m³.
general population, dermal, Long-term - systemic effects: 46 mg/kg bw/day.
general population, oral, Long-term - systemic effects: 46 mg/kg bw/day.
Ethyl acetate, CAS: 141-78-6
Industrial, inhalative, Acute - local effects: 1468 mg/m³.
Industrial, inhalative, Long-term - systemic effects: 734 mg/m³.
Industrial, inhalative, Long-term - local effects: 734 mg/m³.
Industrial, inhalative, Acute - systemic effects: 1468 mg/m³.
Industrial, dermal, Long-term - systemic effects: 63 mg/kg bw/d.
general population, inhalative, Acute - systemic effects: 734 mg/m³.
general population, inhalative, Long-term - local effects: 367 mg/m³.
general population, inhalative, Long-term - systemic effects: 367 mg/m³.
general population, oral, Long-term - systemic effects: 4,5 mg/kg bw/d.

general population, dermal, Long-term - systemic effects: 37 mg/kg bw/d.
general population, inhalative, Acute - local effects: 734 mg/m³.
Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, < 2% aromatics
Industrial, inhalative (vapor), Long-term - systemic effects: 1500 mg/m³.
Industrial, dermal, Long-term - systemic effects: 300 mg/kg bw/d.
general population, oral, Long-term - systemic effects: 300 mg/kg bw/d.
general population, dermal, Long-term - systemic effects: 300 mg/kg bw/d.
general population, inhalative (vapor), Long-term - systemic effects: 900 mg/m³.

PNEC

Substance
Ethyl acetate, CAS: 141-78-6
oral (food), 200 mg/kg.
sewage treatment plants (STP), 650 mg/l.
soil, 0,24 mg/kg dw.
sediment (seawater), 0,125 mg/kg.
sediment (freshwater), 1,25 mg/kg.
seawater, 0,026 mg/l.
freshwater, 0,26 mg/l.

8.2 Exposure controls

Additional advice on system design
Ensure adequate ventilation on workstation.
Measurement methods for taking workplace measurements must meet the performance requirements of DIN EN 482. For example, recommendations are given in the IFA's list of hazardous substances.

Eye protection
Safety glasses. (EN 166:2001)

Hand protection
The details concerned are recommendations. Please contact the glove supplier for further information.
In full contact:
0,7 mm Butyl rubber, >480 min (EN 374-1/-2/-3).
In splash contact:
0,4 mm Nitrile rubber, >120 min (EN 374-1/-2/-3).

Skin protection
Light protective clothing.

Other
Do not inhale gases/vapours/aerosols.
Avoid contact with eyes and skin.
Personal protective equipment should be selected specifically for the working place, depending on concentration and quantity handled. The resistance of this equipment to chemicals should be ascertained with the respective supplier.

Respiratory protection
In the event of occupational exposure limits being exceeded or of inadequate ventilation: wear appropriate respiratory protection.
Short term: combination filter AX-P2. (DIN EN 14387)

Thermal hazards
No information available.

Delimitation and monitoring of the environmental exposition
Protect the environment by applying appropriate control measures to prevent or limit emissions.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Form	aerosol
Color	see product designation
Odor	characteristic
Odour threshold	No information available.
pH-value	not applicable
pH-value [1%]	not applicable
Boiling point [°C]	not applicable
Flash point [°C]	not applicable
Flammability (solid, gas) [°C]	not applicable
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Oxidising properties	no
Vapour pressure/gas pressure [kPa]	No information available.
Density [g/ml]	<1
Bulk density [kg/m³]	not applicable
Solubility in water	insoluble
Partition coefficient [n-octanol/water]	No information available.
Viscosity	not applicable
Relative vapour density determined in air	not applicable
Evaporation speed	not applicable
Melting point [°C]	not applicable
Autoignition temperature [°C]	not applicable
Decomposition temperature [°C]	not applicable

9.2 Other information

No information available.

SECTION 10: Stability and reactivity

10.1 Reactivity

See SECTION 10.3.

10.2 Chemical stability

Stable under normal ambient conditions (ambient temperature).

10.3 Possibility of hazardous reactions

Evolution of flammable mixtures possible in air when heated above flash point and/or during spraying or misting.
Risk of bursting.

10.4 Conditions to avoid

Strong heating.
See SECTION 7.2.

10.5 Incompatible materials

No information available.

10.6 Hazardous decomposition products

Flammable gases/vapours.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product
inhalative, Based on the available information, the classification criteria are not fulfilled.:
dermal, Based on the available information, the classification criteria are not fulfilled.:
oral, Based on the available information, the classification criteria are not fulfilled.:

Substance
Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, < 2% aromatics
LD50, dermal, Rabbit: > 5000 mg/kg bw.
LD50, oral, Rat: > 5000 mg/kg bw.
LC50, inhalative, Rat: > 4,9 mg/L (4h).
Ethyl acetate, CAS: 141-78-6
LD50, dermal, Rabbit: > 18000 mg/kg.
LD50, oral, Rat: 5620 mg/kg.
LC50, inhalative, Rat: 5,86 mg/l 4 h (Lit.).
Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, < 2% aromatics
LD50, dermal, Rabbit: > 5000 mg/kg.
LD50, oral, Rat: > 5000 mg/kg.
LC50, inhalative, Rat: > 4951 mg/m³/4h.
iso-Butane, CAS: 75-28-5
LC50, inhalative, mouse: 1237 mg/l (2h) (Lit.).
Propane, CAS: 74-98-6
LC50, inhalative, Rat: > 1443 mg/l (15 min) (Lit.).
Butane, CAS: 106-97-8
LC50, inhalative, Rat: 658 mg/l (4 h) (Lit.).

Serious eye damage/irritation	Based on the available information, the classification criteria are fulfilled. Irritant Calculation method [RL (EC) No. 1272/2008 Annex I 1.1.3.7]
Skin corrosion/irritation	Based on the available information, the classification criteria are not fulfilled.
Respiratory or skin sensitisation	Based on the available information, the classification criteria are not fulfilled.
Specific target organ toxicity — single exposure	Based on the available information, the classification criteria are fulfilled. Vapours may cause drowsiness and dizziness. Calculation method [RL (EC) No. 1272/2008 Annex I 1.1.3.7]
Specific target organ toxicity — repeated exposure	Based on the available information, the classification criteria are not fulfilled.
Mutagenicity	Based on the available information, the classification criteria are not fulfilled.
Reproduction toxicity	Based on the available information, the classification criteria are not fulfilled.
Carcinogenicity	Based on the available information, the classification criteria are not fulfilled.
Aspiration hazard	Based on the available information, the classification criteria are not fulfilled. v > 20,5 mm²/s (40°C)
General remarks	Has a degreasing effect on the skin.
	The toxicity data listed pertaining to the ingredients are intended for those working in the medicinal professions, experts for occupational health and safety and toxicologists. The toxicity data pertaining to the ingredients were supplied by the manufacturers of raw materials. Toxicological data of complete product are not available.

SECTION 12: Ecological information

12.1 Toxicity

Product
Based on the available information, the classification criteria are not fulfilled.:

Substance
Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, < 2% aromatics
EL50, (72h), Pseudokirchneriella subcapitata: >1000 mg/L.
EL50, (48h), Daphnia magna: 22 - 46 mg/L.
NOELR, (72h), Pseudokirchneriella subcapitata: <1 mg/L.
LL50, (96h), Oncorhynchus mykiss: 10 - 30 mg/L.
Ethyl acetate, CAS: 141-78-6
LC50, (96h), Pimephales promelas: 230 mg/l (IUCLID).
EC50, (48h), Daphnia magna: 717 mg/l (IUCLID).
EC50, (48h), Desmodesmus subspicatus: 3300 mg/l (IUCLID).
EC10, (16h), Pseudomonas putida: 2900 mg/l (IUCLID).
Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, < 2% aromatics
EL0, (48h), Daphnia magna: 1000 mg/l.
EL50, (72h), Algae: > 1000 mg/l.
NOELR, (72h), Algae: 100 mg/l.
LL50, (96h), Oncorhynchus mykiss: > 1000 mg/l.

12.2 Persistence and degradability

Behaviour in environment compartments	No information available.
Behaviour in sewage plant	No information available.
Biological degradability	No information available.

12.3 Bioaccumulative potential

No information available.

12.4 Mobility in soil

No information available.

12.5 Results of PBT and vPvB assessment

Based on all available information not to be classified as PBT or vPvB respectively.

12.6 Other adverse effects

Ecotoxicological data are not available.
The toxicity data pertaining to the ingredients were supplied by the manufacturers of raw materials.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Waste material c It is not possible to determine a waste code for this product in accordance with the European Waste Catalogue (EWC) since it is only possible to classify it according to how it is used by the customer. The waste code is to be determined within the EU in liaison with the waste-disposal operator.

Product

Dispose of as hazardous waste.
Coordinate disposal with the authorities if necessary.

Waste no. (recommended) 160504* gases in pressure containers (including halons) containing dangerous substances

Contaminated packaging

Uncontaminated packaging may be taken for recycling.
Dispose full / partially emptied cartridges as hazardous waste in accordance with official regulations.

Waste no. (recommended) 150110*

SECTION 14: Transport information

14.1 UN number

Transport by land according to ADR/RID	1950
Inland navigation (ADN)	1950
Marine transport in accordance with IMDG	1950
Air transport in accordance with IATA	1950

14.2 UN proper shipping name

Transport by land according to ADR/RID	Aerosols
- Classification Code	5F
- Label	
- ADR LQ	1 l
- ADR 1.1.3.6 (8.6)	Transport category (tunnel restriction code) 2 (D)
Inland navigation (ADN)	Aerosols
- Classification Code	5F
- Label	
Marine transport in accordance with IMDG	Aerosols
- EMS	F-D, S-U
- Label	
- IMDG LQ	1 l
Air transport in accordance with IATA	Aerosols, flammable
- Label	

14.3 Transport hazard class(es)

Transport by land according to ADR/RID	2
Inland navigation (ADN)	2
Marine transport in accordance with IMDG	2.1
Air transport in accordance with IATA	2.1

14.4 Packing group

Transport by land according to ADR/RID	not applicable
Inland navigation (ADN)	not applicable
Marine transport in accordance with IMDG	not applicable
Air transport in accordance with IATA	not applicable

14.5 Environmental hazards

Transport by land according to ADR/RID	no
Inland navigation (ADN)	no
Marine transport in accordance with IMDG	no
Air transport in accordance with IATA	no

14.6 Special precautions for user

Relevant information under SECTION 6 to 8.

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

No information available.

SECTION 15: Regulatory information

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

EEC-REGULATIONS	1991/689 (2001/118); 2010/75; 2004/42; 648/2004; 1907/2006 (REACH); 1272/2008; 75/324/EEC (2016/2037/EC); (EU) 2015/830; (EU) 2016/131; (EU) 517/2014
TRANSPORT-REGULATIONS	ADR (2019); IMDG-Code (2019, 39. Amdt.); IATA-DGR (2019)
NATIONAL REGULATIONS (GB):	EH40/2005 Workplace exposure limits (Second edition, published December 2011).
- Observe employment restrictions for people	Observe employment restrictions for young people.
- VOC (2010/75/CE)	81%

15.2 Chemical safety assessment

not applicable

SECTION 16: Other information

16.1 Hazard statements (SECTION 03)

H412 Harmful to aquatic life with long lasting effects.
H304 May be fatal if swallowed and enters airways.
H226 Flammable liquid and vapour.
H336 May cause drowsiness or dizziness.
H319 Causes serious eye irritation.
H225 Highly flammable liquid and vapour.
H280 Contains gas under pressure; may explode if heated.
H220 Extremely flammable gas.

16.2 Abbreviations and acronyms:

ADR = Accord européen relatif au transport international des marchandises Dangereuses par Route
RID = Règlement concernant le transport international ferroviaire de marchandises dangereuses
ADN = Accord européen relatif au transport international des marchandises dangereuses par voie de navigation intérieure
ATE = acute toxicity estimate
CAS = Chemical Abstracts Service
CLP = Classification, Labelling and Packaging
DMEL = Derived Minimum Effect Level
DNEL = Derived No Effect Level
EC50 = Median effective concentration
ECB = European Chemicals Bureau
EEC = European Economic Community
EINECS = European Inventory of Existing Commercial Chemical Substances
ELINCS = European List of Notified Chemical Substances
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC-Code = International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
IC50 = Inhibition concentration, 50%
IMDG = International Maritime Code for Dangerous Goods
IUCLID = International Uniform ChemicaL Information Database
LC50 = Lethal concentration, 50%
LD50 = Median lethal dose
LC0 = lethal concentration, 0%
LOAEL = lowest-observed-adverse-effect level
MARPOL = International Convention for the Prevention of Marine Pollution from Ships
NOAEL = No Observed Adverse Effect Level
NOEC = No Observed Effect Concentration
PBT = Persistent, Bioaccumulative and Toxic substance
PNEC = Predicted No-Effect Concentration
REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals
STP = Sewage Treatment Plant
TLV®/TWA = Threshold limit value – time-weighted average
TLV®STEL = Threshold limit value – short-time exposure limit
VOC = Volatile Organic Compounds
vPvB = very Persistent and very Bioaccumulative

16.3 Other information

Classification procedure

Aerosol 1: H222 Extremely flammable aerosol. (Bridging principle "Aerosols") H229 Pressurised container: May burst if heated. (Bridging principle "Aerosols")
Eye Irrit. 2: H319 Causes serious eye irritation. (Calculation method)
STOT SE 3: H336 May cause drowsiness or dizziness. (Calculation method)

Modified position

SECTION 8 been added: In the event of occupational exposure limits being exceeded or of inadequate ventilation: wear appropriate respiratory protection.

SECTION 8 deleted: Respiratory protection mask in the event of high concentrations.