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

1.1. Product identifier

Marking spray Top Marker blue, green, red, black

Registration no.

UFI	3KQS-N1G1-4003-9TDH

Substance / product identification

PR-No.	20122, 20123, 20124, 20148, 20149, 20150, 20156, 20157, 20158, 20177

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

Use of the substance/preparation

Paint for marking animals

Identified Uses

SU1	Agriculture, forestry, fishery

1.3. Details of the supplier of the safety data sheet

Address/Manufacturer

Albert Kerbl GmbH
Felizenzell 9
84428 Buchbach

Telephone no.	+49 8086 933-100
Fax no.	+49 8086 933-500
Information provided by / telephone	Albert Kerbl GmbH Tel.: 0049-(0)8086-933-302
E-mail address of person responsible for this SDS	sdb-team@kerbl.com

1.4. Emergency telephone number

Joint poison information center for the states of Mecklenburg-Western Pomerania, Saxony, Saxony-Anhalt and Thuringia c/o HELIOS Klinikum Erfurt Nordhäuser Strasse 74

Tel.: (03 61) 73 07 30 - Fax: (03 61) 7 30 73 17
E-Mail: ggiz@ggiz-erfurt.de - Internet: www.ggiz-erfurt.de

For England (NHS 111) call: 111
For Scotland (NHS24) call: 111
For Wales (NHS Direct) call: 111
When it's less urgent than: 999
For Northern Irland call: GP Out-of-Hours (www.gpoutofhours.hscni.net)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (Regulation (EC) No. 1272/2008)

Classification (Regulation (EC) No. 1272/2008)

Aerosol 1	H222
	H229
Eye Irrit. 2	H319

The product is classified and labelled in accordance with Regulation (EC) No 1272/2008
For explanation of abbreviations see section 16.

2.2. Label elements

Labelling according to regulation (EC) No 1272/2008

Hazard pictograms



Signal word

Danger

Hazard statements

H222	Extremely flammable aerosol.
H229	Pressurized container: may burst if heated.
H319	Causes serious eye irritation.

Precautionary statements

P102	Keep out of reach of children.
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.
P403	Store in a well-ventilated place.
P410+P412	Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.

2.3. Other hazards

Organic solvent vapours released by the product may cause drowsiness and dizziness. In high doses, the vapours cause headaches and symptoms of poisoning.

The product contains no PBT substances. The product contains no vPvB substances. This product does not contain a substance that has endocrine disrupting properties with respect to human. The product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hazardous ingredients

Ethanol

CAS No.	64-17-5				
EINECS no.	200-578-6				
Registration no.	01-2119457610-43-XXXX				
Concentration	>=	59			%
Classification (Regulation (EC) No. 1272/2008)					
	Flam. Liq. 2	H225			
	Eye Irrit. 2	H319			
ATE	oral		1.187	mg/kg	

propan-2-ol

CAS No.	67-63-0				
EINECS no.	200-661-7				
Concentration	>=	10	<	20	%
Classification (Regulation (EC) No. 1272/2008)					
	Flam. Liq. 2	H225			
	Eye Irrit. 2	H319			

	STOT SE 3	H336

Further ingredients

Butane

CAS No. 106-97-8
EINECS no. 203-448-7
Concentration >= 10 < 25 %
[3]
Classification (Regulation (EC) No. 1272/2008)

Flam. Gas 1	H220
Press. Gas	

Additional remarks:
CLP Regulation (EC) No 1272/2008, Annex VI, Note C, U

propane

CAS No. 74-98-6
EINECS no. 200-827-9
Concentration >= 1 < 10 %
[3]
Classification (Regulation (EC) No. 1272/2008)

Flam. Gas 1	H220
Press. Gas	

Additional remarks:
CLP Regulation (EC) No 1272/2008, Annex VI, Note U

Note

[3] Substance with occupational exposure limits

Other information

Complete text of hazard statements in chapter 16

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

In case of accident or if you feel unwell, seek medical advice immediately. Burn: Rinse thoroughly with water until pain stops. Remove clothing that does not stick to the skin and seek medical advice/transport to hospital. If possible, continue flushing until medical help arrives. If medical advice is needed, have the packaging or label ready.

After inhalation

Ensure supply of fresh air. When vapours are intensively inhaled, seek medical help immediately.

After skin contact

Wash off immediately with soap and water. Take off contaminated clothing. Consult a doctor if skin irritation persists.

After eye contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. In case of irritation consult an oculist.

After ingestion

If swallowed, seek medical advice immediately and show this container or label. Rinse mouth thoroughly with water. Let plenty of water be drunk in small gulps. Do not induce vomiting.

Adhere to personal protective measures when giving first aid

First aider: Pay attention to self-protection!

4.2. Most important symptoms and effects, both acute and delayed

Irritant effects: The product contains substances which are locally irritating by skin/eye contact or inhalation. Contact with locally irritating substances may cause the contact area to be more sensitive to the absorption of harmful e.g. allergenic substances.

4.3. Indication of any immediate medical attention and special treatment needed

Hints for the physician / hazards

In the case of swallowing with subsequent vomiting, aspiration of the lungs can occur which can lead to chemical pneumonia or asphyxiation.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Dry powder, Foam, Carbon dioxide, Water mist

Non suitable extinguishing media

Full water jet

5.2. Special hazards arising from the substance or mixture

In case of combustion evolution of dangerous gases possible. Flammable aerosol. CAUTION: Aerosol cans can explode. Do not breathe fumes. In case of fire, the product decomposes and toxic gases such as COx are produced.

5.3. Advice for firefighters

Special protective equipment for fire-fighting

Do not inhale explosion and/or combustion gases. In case of combustion use a suitable breathing apparatus. Wear full protective suit.

Other information

Collect contaminated fire-fighting water separately, must not be discharged into the drains. Fire residues and contaminated fire-fighting water must be disposed of in accordance with the local regulations.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Keep away sources of ignition. Take action to prevent static discharges. Use explosion-proof equipment/fittings and non-sparking tools. Avoid contact with skin, eyes and clothing. Use personal protective clothing.

6.2. Environmental precautions

Prevent spread over a wide area (e.g. by containment or oil barriers). Do not discharge into the drains/surface waters/groundwater. Do not discharge into the subsoil/soil. In case the product spills into sewage waters, immediately inform the authorities.

6.3. Methods and material for containment and cleaning up

Pick up with absorbent material. Do not pick up with the help of saw-dust or other combustible substances. Containers in which spilt substance has been collected must be adequately labelled. Dispose of as prescribed.

6.4. Reference to other sections

Information regarding Safe handling, see Section 7. Information regarding personal protective measures, see Section 8. Information regarding waste disposal, see Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Personal protective equipment: see chapter 8. Use outdoors if possible. Ensure adequate ventilation. Do not eat, drink or smoke when using.

Advice on protection against fire and explosion

Container is under pressure. Protect from sunlight and temperatures above 50°C (e.g. from incandescent lamps). Protect from frost. Keep away from sources of ignition - No smoking.

7.2. Conditions for safe storage, including any incompatibilities

Recommended storage temperature

Value	>=	10	<	50	°C

Requirements for storage rooms and vessels

Keep in original packaging, tightly closed. Storage rooms must be properly ventilated. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Provide solvent-resistant and impermeable floor.

Hints on storage assembly

Do not store with strong oxidizing agents.

Storage classes

Storage class according to TRGS 510	2B	Aerosol dispensers

Further information on storage conditions

Protect from heat and direct sunlight. Keep in a cool place, heat causes increase in pressure and risk of bursting.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Biological limit values

propan-2-ol

List	BGW (TRGS 903)
Value	25 mg/l
Parameter	acetone
Testing material	Whole blood (B)
Test date	End of exposure or end of shift (b)
Source	TRGS 903

propan-2-ol

List	BGW (TRGS 903)
Value	25 mg/l
Parameter	acetone
Testing material	Urine (U)
Test date	End of exposure or end of shift (b)
Source	TRGS 903

Other information

Contains no substances with occupational exposure limit values.

Derived No/Minimal Effect Levels (DNEL/DMEL)

Ethanol

Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Long term	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	206	mg/kg

Type of value	Derived No Effect Level (DNEL)	
Reference group	Professional	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	1900	mg/m³

Type of value	Derived No Effect Level (DNEL)	
Reference group	Professional	
Duration of exposure	Long term	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	343	mg/kg

Type of value	Derived No Effect Level (DNEL)	
Reference group	Professional	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	950	mg/m³

Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Long term	
Route of exposure	oral	
Mode of action	Systemic effects	
Concentration	87	mg/kg

Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Acute	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	950	mg/m³

Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	114	mg/m³

propan-2-ol

Type of value	Derived No Effect Level (DNEL)	
Reference group	Professional	
Duration of exposure	Repeated exposure	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	500	mg/m³

Type of value	Derived No Effect Level (DNEL)	
Reference group	Professional	
Duration of exposure	Repeated exposure	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	888	mg/kg/d

Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Repeated exposure	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	319	mg/kg/d

Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Repeated exposure	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	26	mg/kg/d

Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Repeated exposure	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	89	mg/m³

Predicted No Effect Concentration (PNEC)

Ethanol

Type of value	PNEC	
Type	Soil	
Concentration	0,63	mg/kg

Type of value	PNEC	
Type	Saltwater	
Concentration	0,79	mg/l

Type of value	PNEC	
Type	Freshwater	
Concentration	096	mg/l

Type of value	PNEC	
Type	Water (intermittent release)	
Concentration	2,75	mg/l

propan-2-ol

Type of value	PNEC	
Type	Water (intermittent release)	
Concentration	140,9	mg/l

Type of value	PNEC	
Type	Saltwater	
Concentration	140,9	mg/l

Type of value	PNEC	
Type	Freshwater	
Concentration	140,9	mg/l

Type of value	PNEC	
Type	Soil	
Concentration	28	mg/kg/d

8.2. Exposure controls

General protective and hygiene measures

Do not smoke during work time. Hold eye wash fountain available. Hold emergency shower available. Do not inhale gases/vapours/aerosols. Avoid contact with skin and eyes. Take off immediately all contaminated clothing. Do not eat or drink during work time. Wash hands before breaks and after work. Clean skin thoroughly after work; apply skin cream.

Respiratory protection

If workplace limits are exceeded, a respiratory protection approved for this particular job must be worn.

Hand protection

Chemical resistant gloves
Appropriate Material nitrile
The selection of a suitable glove depends not only on the material but also on other quality features and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of glove materials cannot be calculated in advance and must therefore be checked before use. Hand protection must comply with EN 374.

Eye protection

Safety glasses with side protection shield; Eye protection must comply with EN 166.

Body protection

Clothing as usual in the chemical industry. Protective shoes

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Aerosol
Colour	According to product specification
Odour	Alcohol

Melting point

Remarks	not determined

Freezing point

Remarks	not determined

Boiling point or initial boiling point and boiling range

Remarks	not determined

Flammability

Flammable.

Upper and lower explosive limits

Remarks	not determined

Flash point

Value	-60	°C

Auto-ignition temperature

Remarks	Not applicable

Decomposition temperature

Remarks	Not relevant

pH value

Remarks	not determined

Viscosity

Remarks	not determined

Solubility(ies)

Remarks	not determined

Partition coefficient n-octanol/water (log value)

Remarks	not determined

Vapour pressure

Remarks	not determined

Density and/or relative density

Remarks	not determined

Relative vapour density

Remarks	not determined

9.2. Other information

Odour threshold

Remarks	not determined

Evaporation rate (ether = 1) :

Remarks	not determined

Solubility in water

Remarks	Not or little miscible.

Explosive properties

evaluation	not determined

Oxidising properties

Remarks	not determined

Other information

None known

SECTION 10: Stability and reactivity

10.1. Reactivity

Heating can cause fire or explosion.

10.2. Chemical stability

No decomposition if used as prescribed.

10.3. Possibility of hazardous reactions

No dangerous reactions when stored and handled according to instructions.

10.4. Conditions to avoid

Sun exposure, high temperatures, ignition sources.

10.5. Incompatible materials

Oxidising agents

10.6. Hazardous decomposition products

Irritant gases/vapours

SECTION 11: Toxicological information

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

Acute oral toxicity

ATE	1.483,75	mg/kg
Method	calculated value (Regulation (EC) No. 1272/2008)	
Remarks	Based on available data, the classification criteria are not met.	

Acute oral toxicity (Components)

Ethanol

Species	rat				
LD50		1187	to	15010	mg/kg

propan-2-ol

Species	Rats (male/female)				
LD50		5840			mg/kg

Acute dermal toxicity

Remarks: Based on available data, the classification criteria are not met.

Acute dermal toxicity (Components)

ethanol

Species	rabbit				
LD50		17100			mg/kg

propan-2-ol

Species	rabbit				
LD50		12800			mg/kg

Acute inhalational toxicity

Remarks: Based on available data, the classification criteria are not met.

Acute inhalative toxicity (Components)

Ethanol

Species	rat				
LC50		115,9	to	133,8	mg/l
Duration of exposure		4	h		

propane

Species	mouse				
LC50		1237			mg/l

Butane

Species	mouse				
LC50		1237			mg/l

propan-2-ol

Species	Rats (male/female)				
LC50	>	10000			ppm(V)
Duration of exposure		6	h		

Skin corrosion/irritation

Remarks: Based on available data, the classification criteria are not met.

Serious eye damage/irritation

evaluation: irritant
Remarks: The classification criteria are met.

Sensitization

Remarks: Based on available data, the classification criteria are not met.

Subacute, subchronic, chronic toxicity

Remarks: Based on available data, the classification criteria are not met.

Mutagenicity

Remarks: Based on available data, the classification criteria are not met.

Reproductive toxicity

Remarks: Based on available data, the classification criteria are not met.

Carcinogenicity

Remarks: Based on available data, the classification criteria are not met.

Specific Target Organ Toxicity (STOT)

Single exposure
Remarks: May cause drowsiness and dizziness.

Single exposure
Remarks: In high doses, the vapours cause headaches and symptoms of poisoning.

Repeated exposure
Remarks: Prolonged or repeated inhalation of the vapours may cause damage to the central nervous system.

Specific Target Organ Toxicity (STOT) (Components)

propan-2-ol
Remarks: May cause drowsiness and dizziness.

Aspiration hazard

Based on available data, the classification criteria are not met.

11.2. Information on other hazards

Endocrine disrupting properties with respect to humans

The product does not contain a substance that has endocrine disrupting properties with respect to humans.

Experience in practice

Inhalation of solvent vapours in higher concentration may lead to nausea, headache, drowsiness and dizziness. May cause mild irritation. Irritating to eyes. Produces burning and tearing sensation.

Other information

There is no data available on the product apart from the information given in this subsection.

SECTION 12: Ecological information

12.1. Toxicity

General information

not determined

Fish toxicity (Components)

Butane

Species	Fish				
LC50		24,11	to	147,54	mg/l

propan-2-ol

Species	Fish				
LC50		10000			mg/l
Duration of exposure		96	h		

Ethanol

Species	Fish				
LC50		14,2	to	15,4	g/l
Duration of exposure		96	h		

Daphnia toxicity (Components)

propan-2-ol

Species	Daphnia pulex				
LC50	>	10000			mg/l
Duration of exposure		24	h		

ethanol

Species	Daphnia magna				
EC50		12340			mg/l
Duration of exposure		48	h		

Algae toxicity (Components)

Butane

Species	Algae			
EC50	7,71	to	16,5	mg/l

Ethanol

Species	Algae			
EC50	275			mg/l
Duration of exposure	72	h		

12.2. Persistence and degradability

General information

not determined

Biodegradability (Components)

propane

Value	100			%
Duration of test	385,5	h		
Method	Biodegradation test, predates, OECD test			

Butane

Value	100			%
Duration of test	385,5	h		
Method	Biodegradation test, predates, OECD test			

propan-2-ol

Value	53			%
Duration of test	5	d		
Method	EU Method C.5			

Ethanol

Value	97			%
Duration of test	28	d		
Method	OECD Guideline 301 B			

12.3. Bioaccumulative potential

General information

The product is not bioaccumulating.

Partition coefficient n-octanol/water (log value)

Remarks not determined

Octanol/water partition coefficient (log Pow) (Components)

ethanol

log Pow -0,31

12.4. Mobility in soil

General information

not determined

12.5. Results of PBT and vPvB assessment

General information

Mixture does not meet PBT or vPvB criteria.

Results of PBT and vPvB assessment

The product contains no PBT substances
The product contains no vPvB substances.

12.6 Endocrine disrupting properties

Endocrine disrupting properties with respect to the envrionment

The product does not contain a substance that has endocrine disrupting properties with respect to

non-target organisms.

12.7. Other adverse effects

General information

not determined

General information / ecology

Do not allow to enter soil, waterways or waste water canal. Avoid release into the atmosphere.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations for the product

EWC waste code	16 05 04*	gases in pressure containers (including halons) containing dangerous substances

Must not be disposed of together with household waste.
Do not allow to enter drains.
In accordance with regulations for special waste, must be taken, after pretreatment, to an authorised special waste incineration plant.
The listed waste code numbers, according to the European Waste Catalogue (EWC), are to be understood as a recommendation. A final decision must be made in agreement with the regional waste disposal company.
Dispose of waste according to applicable legislation.

Disposal recommendations for packaging

EWC waste code	16 05 04*	gases in pressure containers (including halons) containing dangerous substances

Packaging that cannot be cleaned should be disposed off as product waste.

SECTION 14: Transport information

	Land transport ADR/RID	Marine transport IMDG/GGVSee	Air transport ICAO/IATA
14.1. UN number or ID number	1950	1950	1950
14.2. UN proper shipping name	AEROSOLS	AEROSOLS	Aerosols, flammable
14.3. Transport hazard class(es)	2	2.1	2.1
Label			
Limited Quantity	1 l		
Transport category	2		
14.5. Environmental hazards	-	no	-
Tunnel restriction code	D		

Information for all modes of transport

14.6. Special precautions for user

See Sections 6 to 8

Other information

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

15.2. Chemical safety assessment

For this preparation a chemical safety assessment has not been carried out.

SECTION 16: Other information

Hazard statements listed in Chapter 3

H222	Extremely flammable aerosol.
H225	Highly flammable liquid and vapour.
H229	Pressurized container: may burst if heated.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.

CLP categories listed in Chapter 3

Aerosol 1	Aerosol, Category 1
Eye Irrit. 2	Eye irritation, Category 2
Flam. Liq. 2	Flammable liquid, Category 2
STOT SE 3	Specific target organ toxicity - single exposure, Category 3

Supplemental information

Relevant changes compared with the previous version of the safety data sheet are marked with: ***
This information is based on our present state of knowledge. However, it should not constitute a guarantee for any specific product properties and shall not establish a legally valid relationship.
Since the user's working conditions are not known by us, the information supplied on this safety data sheet is based on our current level of knowledge and on national and community regulations.
The mixture must not be used for other uses than those specified in section 1 without having first obtained written handling instructions.
It is at all times the responsibility of the user to take all necessary measures to comply with legal requirements and local regulations.
The information in this safety data sheet must be regarded as a description of the safety requirements relating to the mixture and not as a guarantee of the properties thereof.