Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)

Orange Solvent / 200ml

Version number: GHS 1.1 | Date of compilation: 2017-12-07

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

1.1 Product identifier

Trade name	**Orange Solvent / 200ml**
Registration number (REACH)	not relevant (mixture)
Other means of identification	
Article number	554 201

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

Relevant identified uses	cleaning agent

1.3 Details of the supplier of the safety data sheet

Hager & Werken GmbH & Co. KG
Ackerstraße 1
47269 Duisburg
Germany

Telephone: + 49 203 / 99 26 90
Telefax: + 49 203 / 29 92 83
e-mail: info@hagerwerken.de
Website: www.hagerwerken.de

Competent person responsible for the safety data sheet	Abteilung Produktsicherheit
e-mail (competent person)	info@hagerwerken.de

1.4 Emergency telephone number

Emergency information service	+ 49 203 / 99 26 90 This number is only available during the following office hours: Mon-Fri 09:00 - 17:00

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 (CLP)

Section	Hazard class	Category	Hazard class and category	Hazard statement
2.3	aerosols	Cat. 1	(Aerosol 1)	H222,H229

Remarks

For full text of H-phrases: see SECTION 16.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 (CLP)

Signal word **Danger**

Pictograms

GHS02

Hazard statements

H222	Extremely flammable aerosol.
H229	Pressurized container: may burst if heated.

Precautionary statements

Precautionary statements - general

P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.
P103	Read label before use.

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.

Precautionary statements - storage

P410+P412	Protect from sunlight. Do not expose to temperatures exceeding 50 °C.

2.3 Other hazards

There is no additional information.

SECTION 3: Composition/information on ingredients

3.1 Substances

not relevant (mixture)

3.2 Mixtures

Description of the mixture

Name of substance	Identifier	wt%	Classification acc. to 1272/2008/EC	Pictograms
ethanol	CAS No 64-17-5 EC No 200-578-6	25 – < 50	Flam. Liq. 2 / H225	
butane	CAS No 106-97-8 EC No 203-448-7	25 – < 50	Flam. Gas 1 / H220 Press. Gas L / H280	
propane	CAS No 74-98-6 EC No 200-827-9	5 – < 10	Flam. Gas 1 / H220 Press. Gas L / H280	
isobutane	CAS No 75-28-5 EC No 200-857-2	1 – < 5	Flam. Gas 1 / H220 Press. Gas C / H280	

For full text of abbreviations: see SECTION 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General notes

Do not leave affected person unattended. Remove victim out of the danger area. Keep affected person warm, still and covered. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness place person in the recovery position. Never give anything by mouth.

Following inhalation

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. Provide fresh air.

Following skin contact

Wash with plenty of soap and water.

Following eye contact

Remove contact lenses, if present and easy to do. Continue rinsing. Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

Following ingestion

Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms and effects are not known to date.

4.3 Indication of any immediate medical attention and special treatment needed

none

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

water spray, BC-powder

Unsuitable extinguishing media

water jet

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products

nitrogen oxides (NOx), carbon monoxide (CO), carbon dioxide (CO2)

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Co-ordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Remove persons to safety.

For emergency responders

Wear breathing apparatus if exposed to vapours/dust/spray/gases.

6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it.

6.3 Methods and material for containment and cleaning up

Advices on how to contain a spill

Covering of drains.

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Recommendations

• Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation. Use only in well-ventilated areas.

Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

7.2 Conditions for safe storage, including any incompatibilities

Managing of associated risks

• Flammability hazards

Do not spray on an open flame or other ignition source. Protect from sunlight.

Incompatible substances or mixtures

Observe hints for combined storage.

Consideration of other advice

• Packaging compatibilities

Only packagings which are approved (e.g. acc. to ADR) may be used.

7.3 Specific end use(s)

See section 16 for a general overview.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

National limit values

Occupational exposure limit values (Workplace Exposure Limits)

Country	Name of agent	CAS No	Identifier	TWA [ppm]	TWA [mg/m³]	STEL [ppm]	STEL [mg/m³]	Source
DE	butane	106-97-8	AGW	1.000	2.400	4.000	9.600	TRGS 900
DE	ethanol	64-17-5	AGW	500	960	1.000	1.920	TRGS 900
DE	ethanol	64-17-5	MAK	200	380	800	1.520	DFG
DE	propane	74-98-6	AGW	1.000	1.800	4.000	7.200	TRGS 900
DE	isobutane	75-28-5	AGW	1.000	2.400	4.000	9.600	TRGS 900

Notation

STEL Short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period unless otherwise specified

TWA Time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average

Relevant DNELs/DMELs/PNECs and other threshold levels

• relevant DNELs of components of the mixture

Name of substance	CAS No	End-point	Threshold level	Protection goal, route of exposure	Used in	Exposure time
ethanol	64-17-5	DNEL	1.900 mg/m³	human, inhalatory	worker (industry)	acute - local effects
ethanol	64-17-5	DNEL	343 mg/kg	human, dermal	worker (industry)	chronic - systemic effects
ethanol	64-17-5	DNEL	950 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects

• relevant PNECs of components of the mixture

Name of substance	CAS No	End-point	Threshold level	Organism	Environmental compartment	Exposure time
ethanol	64-17-5	PNEC	580 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
ethanol	64-17-5	PNEC	2,75 mg/l	aquatic organisms	water	intermittent release

8.2 Exposure controls

Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

Personal protective equipment shall be used when the risks cannot be avoided or sufficiently limited by technical means of collective protection or by measures, methods or procedures of work organization.

Eye/face protection

Wear eye/face protection.

Skin protection

• hand protection

Wear suitable gloves. Check leak-tightness/impermeability prior to use. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

• other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling.

Respiratory protection

[In case of inadequate ventilation] wear respiratory protection.

Environmental exposure controls

Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state	aerosol (spray aerosol)
Colour	colourless - clear
Odour	characteristic

Other physical and chemical parameters

pH (value)	
Melting point/freezing point	not determined
Initial boiling point and boiling range	-161,5 °C at 1.013 hPa
Flash point Evaporation	-80 °C (im geschlossenen Tiegel)
rate Flammability (solid,	not determined
gas) Explosive limits	flammable aerosol in accordance with GHS criteria
• lower explosion limit (LEL)	2,5 vol%
• upper explosion limit (UEL)	15 vol%
Vapour pressure	2.500 – 3.000 hPa at 20 °C
Density	0,7996 – 0,8169 $^{g}/_{cm^3}$ at 20 °C
Solubility(ies)	not determined
Partition coefficient	
n-octanol/water (log KOW)	this information is not available
Auto-ignition temperature	225 °C
Viscosity	not relevant (aerosol)
Explosive properties	none
Oxidising properties	none

9.2 Other information

Refractive index	1,373 – 1,383 (20 °C)
Solvent content	59,03 %
Solid content	0 %
propellant content	40,97 %

SECTION 10: Stability and reactivity

10.1 Reactivity

Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials". The mixture contains reactive substance(s): risk of ignition

10.2 Chemical stability

See below "Conditions to avoid".

10.3 Possibility of hazardous reactions

No known hazardous reactions.

10.4 Conditions to avoid

Do not spray on an open flame or other ignition source. - Keep away from heat.

Hints to prevent fire or explosion

Protect from sunlight.

Physical stresses which might result in a hazardous situation and have to be avoided

strong shocks

10.5 Incompatible materials

oxidisers

10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Test data are not available for the complete mixture.

Classification procedure

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

Classification according to GHS (1272/2008/EC, CLP)

Acute toxicity

Shall not be classified as acutely toxic.

Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

Serious eye damage/eye irritation

Shall not be classified as seriously damaging to the eye or eye irritant.

Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

Summary of evaluation of the CMR properties

Shall not be classified as germ cell mutagenic, carcinogenic nor as a reproductive toxicant.

Specific target organ toxicity (STOT)

Shall not be classified as a specific target organ toxicant.

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

SECTION 12: Ecological information

12.1 Toxicity

acc. to 1272/2008/EC: Shall not be classified as hazardous to the aquatic environment.
Wassergefährdungsklasse, WGK (water hazard class) (WGK; Germany): 1 (slightly hazardous to water)

Aquatic toxicity (acute)

Aquatic toxicity (acute) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Exposure time
ethanol	64-17-5	LC50	14,2 g/l	fish	96 h
ethanol	64-17-5	EC50	12,9 g/l	fish	96 h
butane	106-97-8	LC50	27,98 mg/l	fish	96 h
butane	106-97-8	EC50	7,71 mg/l	algae	96 h
propane	74-98-6	LC50	27,98 mg/l	fish	96 h
propane	74-98-6	EC50	7,71 mg/l	algae	96 h

Aquatic toxicity (chronic)

Aquatic toxicity (chronic) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Exposure time
ethanol	64-17-5	LC50	>0,08 mg/l	fish	42 d
ethanol	64-17-5	EC50	22,6 g/l	algae	10 d
ethanol	64-17-5	ErC50	675 mg/l	algae	4 d

Biodegradation

The relevant substances of the mixture are readily biodegradable.

12.2 Persistence and degradability

Degradability of components of the mixture

Name of substance	CAS No	Process	Degradation rate	Time
ethanol	64-17-5	oxygen depletion	74 %	5 d

12.3 Bioaccumulative potential

Data are not available.

Bioaccumulative potential of components of the mixture

Name of substance	CAS No	BCF	Log KOW	BOD5/COD
ethanol	64-17-5		-0,35 (pH value: 7,4, 24 °C)	
butane	106-97-8		1,09 (pH value: 7, 20 °C)	
propane	74-98-6		1,09 (pH value: 7, 20 °C)	

12.4 Mobility in soil

Data are not available.

12.5 Results of PBT and vPvB assessment

Data are not available.

12.6 Other adverse effects

Data are not available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.

Waste treatment of containers/packagings

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used. Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

Remarks

Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

SECTION 14: Transport information

14.1	UN number	**1950**
14.2	UN proper shipping name	**AEROSOLS**
14.3	Transport hazard class(es)	
	Class	2 (gases) (aerosol)
	Subsidiary risk(s)	2.1 (flammability)
14.4	Packing group	not assigned to a packing group
14.5	Environmental hazards	none (non-environmentally hazardous acc. to the dangerous goods regulations)

14.6 Special precautions for user

Provisions for dangerous goods (ADR) should be complied within the premises.

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

The cargo is not intended to be carried in bulk.

Information for each of the UN Model Regulations

• Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)

UN number	1950
Proper shipping name	AEROSOLS
Class	2
Classification code	5F
Danger label(s)	2.1

Special provisions (SP)	190, 327, 344, 625
Excepted quantities (EQ)	E0

Limited quantities (LQ)	1 L
Transport category (TC)	2
Tunnel restriction code (TRC)	D

• International Maritime Dangerous Goods Code (IMDG)

UN number	1950
Proper shipping name	AEROSOLS
Class	2.1
Danger label(s)	2.1

Special provisions (SP)	63, 190, 277, 327, 344, 381, 959
Excepted quantities (EQ)	E0
Limited quantities (LQ)	1 L
EmS	F-D, S-U
Stowage category	-

• International Civil Aviation Organization (ICAO-IATA/DGR)

UN number	1950
Proper shipping name	Aerosols, flammable
Class	2.1
Danger label(s)	2.1

Special provisions (SP)	A145, A167
Excepted quantities (EQ)	E0
Limited quantities (LQ)	30 kg

SECTION 15: Regulatory information

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

Relevant provisions of the European Union (EU)

• Directive 75/324/EEC relating to aerosol dispensers

Classification of the gas/aerosol	Extremely flammable
Labelling	Pressurized container: may burst if heated Keep out of the reach of children Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking Do not pierce or burn, even after use Protect from sunlight. Do not expose to temperatures exceeding 50 °C

National regulations (Germany)

• Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen (Ordinance on facilities for handling substances hazardous to water) (AwSV)

Wassergefährdungsklasse, WGK (water hazard class) 1 (slightly hazardous to water)

• Technical instructions on air quality control (Germany)

Number	Group of substances	Class	Conc.	Mass flow	Mass concentration	Notation
5.2.5	organic substances	class I	10 – < 25 wt%	0,1 kg/h	20 mg/m³	3)
5.2.5	organic substances		≥ 25 wt%	0,5 kg/h	50 mg/m³	3)

Notation

3) A total mass flow of 0.50 kg/h or a total mass concentration of 50 mg/m³, each of which to be indicated as total carbon, shall not be exceeded (except organic particulate matter)

• Storage of hazardous substances in non-stationary containers (TRGS 510) (Germany)

Storage class (LGK): 2 B (aerosol dispensers and lighters)

15.1.4. Regulation on detergents 648/2004

30 % and more aliphatic hydrocarbons, Duftstoff.

15.2 Chemical Safety Assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

16.1 Indication of changes (revised safety data sheet)

Section	Former entry (text/value)	Actual entry (text/value)	Safety-relevant
1.3			
1.3			

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
AGW	Workplace exposure limit
BCF	Bioconcentration factor
BOD	Biochemical Oxygen Demand
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
CMR	Carcinogenic, Mutagenic or toxic for Reproduction
COD	Chemical oxygen demand

Abbr.	Descriptions of used abbreviations
DFG	Deutsche Forschungsgemeinschaft MAK-und BAT-Werte-Liste, Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe, Wiley-VCH, Weinheim
DGR	Dangerous Goods Regulations (see IATA/DGR)
DMEL	Derived Minimal Effect Level
DNEL	Derived No-Effect Level
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
Flam. Gas	Flammable gas
Flam. Liq.	Flammable liquid
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
LGK	Lagerklasse (storage class according to TRGS 510, Germany)
log KOW	n-Octanol/water
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
ppm	Parts per million
Press. Gas	Gas under pressure
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
STEL	Short-term exposure limit
TRGS	Technische Regeln für GefahrStoffe (technical rules for hazardous substances, Germany)
TRGS 900	Arbeitsplatzgrenzwerte (TRGS 900)
TWA	Time-weighted average
vPvB	Very Persistent and very Bioaccumulative

Key literature references and sources for data

- Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU
- Regulation (EC) No. 1272/2008 (CLP, EU GHS)

Classification procedure

Physical and chemical properties: The classification is based on tested mixture.
Health hazards/environmental hazards: The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

List of relevant phrases (code and full text as stated in chapter 2 and 3)

Code	Text
H220	Extremely flammable gas.
H222	Extremely flammable aerosol.
H225	Highly flammable liquid and vapour.
H229	Pressurized container: may burst if heated.
H280	Contains gas under pressure; may explode if heated.

Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.