

Safety Data Sheet

according to Regulation (EC) No 1907/2006

425-49 Hardness 2 Solution

Revision date: 16.03.2017

Product code: 42549

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SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

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

Water analysis

1.3. Details of the supplier of the safety data sheet

Company name: HACH LANGE GmbH
Street: Willstätterstr. 11
Place: D-40549 Düsseldorf
Telephone: +49 (0)211 5288-383
e-mail: SDS@hach.com
Internet: www.de.hach.com
Responsible Department: HACH LANGE Ltd.
5, Pacific Way
Salford Manchester M50 1DL - United Kingdom
Tel. +44 (0) 161 872 1487 * Fax +44 (0) 161 848 7324
e-Mail: info-uk@hach.com

HACH LANGE Ltd.
Unit 1, Chestnut Road Western Industrial Estate
IRL-Dublin 12
Tel. +353 (0)1 4602522
e-Mail: info-ie@hach.com

1.4. Emergency telephone number:

Poison Control Center Mainz: Tel: +49 (0) 6131 19240 - 24 hour emergency service -

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****Regulation (EC) No. 1272/2008**

Hazard categories:

Substance or mixture corrosive to metals: Met. Corr. 1

Flammable liquid: Flam. Liq. 3

Skin corrosion/irritation: Skin Corr. 1A

Serious eye damage/eye irritation: Eye Dam. 1

Respiratory or skin sensitisation: Skin Sens. 1

Carcinogenicity: Carc. 2

Specific target organ toxicity - repeated exposure: STOT RE 2

Hazard Statements:

May be corrosive to metals.

Flammable liquid and vapour.

Causes severe skin burns and eye damage.

Causes serious eye damage.

May cause an allergic skin reaction.

Suspected of causing cancer.

May cause damage to organs through prolonged or repeated exposure.

2.2. Label elements**Regulation (EC) No. 1272/2008**

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Hazard components for labelling

hydroxylammonium chloride; hydroxylamine hydrochloride

propan-2-ol; isopropyl alcohol; isopropanol

Signal word: Danger**Pictograms:**

Hazard statements

- | | |
|------|--|
| H226 | Flammable liquid and vapour. |
| H290 | May be corrosive to metals. |
| H314 | Causes severe skin burns and eye damage. |
| H317 | May cause an allergic skin reaction. |
| H351 | Suspected of causing cancer. |
| H373 | May cause damage to organs through prolonged or repeated exposure. |

Precautionary statements

- | | |
|----------------|--|
| P210 | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. |
| P243 | Take action to prevent static discharges. |
| P304+P340 | IF INHALED: Remove person to fresh air and keep comfortable for breathing. |
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P303+P361+P353 | IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. |
| P301+P330+P331 | IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. |
| P310 | Immediately call a POISON CENTER/doctor. |

Additional advice on labelling

The product is classified as dangerous in accordance with Regulation (EC) No. 1272/2008.

2.3. Other hazards

no data available

SECTION 3: Composition/information on ingredients

3.2. Mixtures

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Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification according to Regulation (EC) No. 1272/2008 [CLP]			
57-55-6	1,2-Propanediol			90-100 %
	200-338-0			
5470-11-1	hydroxylammonium chloride; hydroxylamine hydrochloride			1-10 %
	226-798-2	612-123-00-2		
	Met. Corr. 1, Carc. 2, Acute Tox. 4, Acute Tox. 4, STOT RE 2, Eye Irrit. 2, Skin Irrit. 2, Skin Sens. 1, Aquatic Acute 1; H290 H351 H312 H302 H373 ** H319 H315 H317 H400			
67-63-0	propan-2-ol; isopropyl alcohol; isopropanol			< 5 %
	200-661-7	603-117-00-0		
	Flam. Liq. 2, Eye Irrit. 2, STOT SE 3; H225 H319 H336			
3147-14-6	Calmagite			< 1 %
	221-563-0			
	Skin Irrit. 2, Eye Irrit. 2, STOT SE 3; H315 H319 H335			

Full text of H and EUH statements: see section 16.

SECTION 4: First aid measures
4.1. Description of first aid measures
General information

Take off all contaminated clothing immediately. Show this safety data sheet to the doctor in attendance.

After inhalation

Move to fresh air. Consult a physician for severe cases.

After contact with skin

Wash off with soap and water. If skin irritation persists, call a physician.

After contact with eyes

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Show this safety data sheet to the doctor in attendance.

After ingestion

Clean mouth with water and drink afterwards plenty of water. Do NOT induce vomiting. Show this safety data sheet to the doctor in attendance.

Never give anything by mouth to an unconscious person.

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

Irritation and corrosion. Allergic reactions, sensitising effects

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

Treat symptomatically.

SECTION 5: Firefighting measures
5.1. Extinguishing media
Suitable extinguishing media

Alcohol-resistant foam

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

None known.

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5.2. Special hazards arising from the substance or mixture

Fire may liberate hazardous vapours.

Acid chlorides Carbon dioxide (CO₂), carbon monoxide (CO), oxides of nitrogen (NO_x), dense black smoke.

5.3. Advice for firefighters

In the case of respirable dust and/or fumes, use self-contained breathing apparatus and dust impervious protective suit.

Additional information

Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Only qualified personnel equipped with suitable protective equipment may intervene. Immediately evacuate personnel to safe areas.

Do not breathe vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

6.2. Environmental precautions

Do not flush into surface water or sanitary sewer system.

Should not be released into the environment.

6.3. Methods and material for containment and cleaning up

Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local/national regulations (see section 13).

6.4. Reference to other sections

13. Disposal considerations

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Avoid contact with skin and eyes. Use only in well-ventilated areas. Do not breathe vapours or spray mist.

Advice on protection against fire and explosion

See also section 5

Further information on handling

Observe label precautions.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep away from open flames, hot surfaces and sources of ignition.

Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Hints on joint storage

Incompatible with oxidizing agents.

7.3. Specific end use(s)

Reagent for analysis

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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Exposure limits (EH40)

CAS No	Substance	ppm	mg/m ³	fibres/ml	Category	Origin
67-63-0	Propan-2-ol	400	999		TWA (8 h)	WEL
		500	1250		STEL (15 min)	WEL
57-55-6	Propane-1,2-diol, particulates	-	10		TWA (8 h)	WEL

Additional advice on limit values

None known.

8.2. Exposure controls

Appropriate engineering controls

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

Protective and hygiene measures

Wash hands before breaks and after work.
General industrial hygiene practice.

Eye/face protection

Safety glasses with side-shields

Hand protection

Use barrier skin cream.

Chemical resistant gloves made of butyl rubber or nitrile rubber category III according to EN 374. In full contact:

Gloves material: Viton, Layer thickness: 0.70 mm, Breakthrough time: >480 min. In splash contact: Glove material: nitrile rubber, Layer thickness 0,20 mm, Breakthrough time: > 30 min

Consult your supplier if the material is to be used for special applications such as in the food industry or for hygiene, medical or surgical end-use.

Skin protection

Avoid contact with skin, eyes and clothing.

Respiratory protection

Provide adequate ventilation.

Environmental exposure controls

Do not flush into surface water or sanitary sewer system.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	liquid
Colour:	dark red
Odour:	pleasant
pH-Value (at 20 °C):	1,09

Changes in the physical state

Melting point:	not applicable
Initial boiling point and boiling range:	118 °C
Sublimation point:	not applicable
Softening point:	not applicable
Pour point:	no data available
:	no data available
Flash point:	25,7 °C

Flammability

Solid: no data available

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Gas: no data available

Explosive properties

not applicable

Lower explosion limits: no data available

Upper explosion limits: no data available

Ignition temperature: no data available

Auto-ignition temperature

Solid: no data available

Gas: no data available

Decomposition temperature: no data available

Oxidizing properties

not applicable

Vapour pressure: no data available

Vapour pressure: no data available

Density (at 20 °C): 1,01 g/cm³

Bulk density: no data available

Water solubility: soluble

(at 20 °C)

Solubility in other solvents

no data available

Partition coefficient: no data available

Viscosity / dynamic: no data available

Viscosity / kinematic: no data available

Flow time: no data available

Vapour density: no data available

Evaporation rate: no data available

Solvent separation test: no data available

Solvent content: no data available

9.2. Other information

Solid content: no data available

Corrosive in contact with metals

Mild steel : 7,31 mm/a

SECTION 10: Stability and reactivity**10.1. Reactivity**

Reactivity Hazard: Oxidizing agents

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

Reacts with the following substances: Oxidizing agents

10.4. Conditions to avoid

Heat, flames and sparks. To avoid thermal decomposition, do not overheat.

10.5. Incompatible materials

None known.

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10.6. Hazardous decomposition products

Carbon monoxide, Carbon dioxide (CO₂), Acid chlorides

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicokinetics, metabolism and distribution

No toxicology information is available.

Acute toxicity

No data is available on the product itself.

CAS No	Chemical name					
	Exposure route	Dose		Species	Source	Method
57-55-6	1,2-Propanediol					
	oral	LD50 mg/kg	20000	rat	Toxicology and Appli	
	dermal	LD50 mg/kg	20800	rabbit	Raw Material Data Ha	
5470-11-1	hydroxylammonium chloride; hydroxylamine hydrochloride					
	oral	LD50 mg/kg	141	rat		
	dermal	ATE mg/kg	1100			
67-63-0	propan-2-ol; isopropyl alcohol; isopropanol					
	oral	LD50 mg/kg	5045	rat	RTECS	
	dermal	LD50 mg/kg	12800	rabbit		
	inhalation (4 h) vapour	LC50	46,5 mg/l	rat		

Irritation and corrosivity

Causes skin and eye burns.

Sensitising effects

May cause sensitisation by skin contact.

Carcinogenic/mutagenic/toxic effects for reproduction

H351 - Suspected of causing cancer.

STOT-single exposure

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

STOT-repeated exposure

H373 - May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard

No aspiration toxicity classification

Specific effects in experiment on an animal

No toxicology information is available.

Additional information on tests

None known.

Further information

Other dangerous properties can not be excluded. Handle in accordance with good industrial hygiene and safety practice.

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SECTION 12: Ecological information
12.1. Toxicity

No data is available on the product itself.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
57-55-6	1,2-Propanediol					
	Acute fish toxicity	LC50 mg/l	51600	96 h	Oncorhynchus mykiss (rainbow trout)	OECD 203
	Acute crustacea toxicity	EC50 mg/l	34400	48 h	Daphnia magna (Water flea)	Information taken from reference works and the literature.
5470-11-1	hydroxylammonium chloride; hydroxylamine hydrochloride					
	Acute fish toxicity	LC50 mg/l	1-10	96 h	Leuciscus idus (Golden orfe)	
67-63-0	propan-2-ol; isopropyl alcohol; isopropanol					
	Acute fish toxicity	LC50 mg/l	1400	96 h	Lepomis macrochirus (Bluegill sunfish)	
	Acute algae toxicity	ErC50 mg/l	> 1000	72 h	Pseudokirchneriella subcapitata (green algae)	IUCLID
	Acute crustacea toxicity	EC50 mg/l	13299	48 h	Daphnia magna (Water flea)	IUCLID

12.2. Persistence and degradability

No data is available on the product itself.

12.3. Bioaccumulative potential

No data is available on the product itself.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
57-55-6	1,2-Propanediol	-0,92

12.4. Mobility in soil

no data available

12.5. Results of PBT and vPvB assessment

no data available

12.6. Other adverse effects

Discharge into the environment must be avoided.

SECTION 13: Disposal considerations
13.1. Waste treatment methods
Advice on disposal

In accordance with local and national regulations.

Waste disposal number of waste from residues/unused products

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste

Waste disposal number of used product

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160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste

Waste disposal number of contaminated packaging

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste

SECTION 14: Transport information**Land transport (ADR/RID)**

14.1. UN number: UN2924
14.2. UN proper shipping name: FLAMMABLE LIQUID, CORROSIVE, N.O.S.
14.3. Transport hazard class(es): 3
14.4. Packing group: III
Hazard label: 3+8



Classification code: FC
Special Provisions: 274
Limited quantity: 5 L
Transport category: 3
Hazard No: 38
Tunnel restriction code: D/E

Other applicable information (land transport)

Excepted Quantities: E1

Inland waterways transport (ADN)**Other applicable information (inland waterways transport)**

Not tested

Marine transport (IMDG)

14.1. UN number: UN2924
14.2. UN proper shipping name: FLAMMABLE LIQUID, CORROSIVE, N.O.S.
14.3. Transport hazard class(es): 3
14.4. Packing group: III
Hazard label: 3+8



Marine pollutant: --
Special Provisions: 223, 274
Limited quantity: 5 L
EmS: F-E, S-C

Other applicable information (marine transport)

Excepted Quantities: E1

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number: UN2924
14.2. UN proper shipping name: FLAMMABLE LIQUID, CORROSIVE, N.O.S.
14.3. Transport hazard class(es): 3

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14.4. Packing group:

III

Hazard label:

3+8



Special Provisions:

A3

Limited quantity Passenger:

1 L

IATA-packing instructions - Passenger:

354

IATA-max. quantity - Passenger:

5 L

IATA-packing instructions - Cargo:

365

IATA-max. quantity - Cargo:

60 L

Other applicable information (air transport)

Excepted Quantities: E1

Passenger-LQ: Y342

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: yes

**14.6. Special precautions for user**

no data available

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

Not relevant

Other applicable information

Additional Information: This product may be shipped as part of a chemical kit composed of various compatible dangerous goods for analytical or testing purposes. This kit would have the following classification: Proper

Shipping Name: Chemical Kit, Hazard Class: 9, UN Number 3316, Package group II, EMS Code: F-A, S-P

These transport data apply to the entire pack

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****National regulatory information**

Employment restrictions:

Observe restrictions to employment for juvenils according to the 'juvenile work protection guideline' (94/33/EC).

Water contaminating class (D):

3 - highly water contaminating

15.2. Chemical safety assessment

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

SECTION 16: Other information**Changes**

Revision: 16.03.2017

Safety datasheet sections which have been updated: 2, 4, 11

Revision: 06.09.2016

Safety datasheet sections which have been updated: 2, 4, 11

Safety datasheet sections which have been updated: 2-16 Revision: 04.06.2013

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Relevant H and EUH statements (number and full text)

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H290	May be corrosive to metals.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H351	Suspected of causing cancer.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.

Further Information

The information is based on present level of our knowledge. It does not, however, give assurances of product properties and establishes no contract legal rights.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)