



**Be Right™**

# SAFETY DATA SHEET

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

Issue Date 07-Jul-2016

Revision Date 26-Jul-2024

Version 5

## Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

### 1.1. Product identifier

**Product Code(s)** 1490932  
**Product Name** Acetate Buffer Solution, pH 4  
**Unique Formula Identifier (UFI)** TY08-8G88-M00E-1JNP

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

**Recommended Use** Buffer.  
**Uses advised against** Consumer use

### 1.3. Details of the supplier of the safety data sheet

#### **Supplier**

HACH LANGE GmbH  
Willstätterstr. 11  
D-40549 Düsseldorf  
Tel: +49 (0)211 5288-383  
sds@hach.com

Responsible country contact:

HACH UK  
Laser House  
Ground Floor, Suite B  
Waterfront Quay, Salford Quays  
GB - Manchester, M50 3XW  
Tel. +44 (0) 161 872 1487  
info-uk@hach.com

HACH Ireland  
Unit 34 GB Business Park  
Little Island  
IRL-Co. Cork  
T45 H681  
Tel. +353 (0)146 02 522  
info-ie@hach.com

### 1.4. Emergency telephone number

UK: Chemtrec: +44 20 3807 3798  
IE: National Poisons Information Centre (NPIC) 01 809 2566 (24/7)

## Section 2: HAZARDS IDENTIFICATION

### 2.1. Classification of the substance or mixture

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

<b>Serious eye damage/eye irritation</b>	Category 2 - (H319)
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### 2.2. Label elements

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

Contains Acetic acid 43%



#### **Signal word**

Warning

#### **Hazard statements**

H319 - Causes serious eye irritation

#### **Precautionary statements**

P260 - Do not breathe dust/fume/gas/mist/vapours/spray

P264 - Wash face, hands and any exposed skin thoroughly after handling

P280 - Wear eye protection/ face protection

P301 + P330 + P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting

P303 + P361 + P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower

P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position 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

P310 - Immediately call a POISON CENTER or doctor/physician

P337 + P313 - If eye irritation persists: Get medical advice/attention

P363 - Wash contaminated clothing before reuse

P405 - Store locked up

P501 - Dispose of contents/ container to an approved waste disposal plant

### 2.3. Other hazards

No information available.

#### PBT & vPvB

This mixture contains no substance considered to be persistent, bioaccumulating or toxic (PBT)

This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB)

#### Endocrine Disruptor Information

This product does not contain any known or suspected endocrine disruptors.

## **Section 3: COMPOSITION/INFORMATION ON INGREDIENTS**

### 3.1 Substances

Not applicable

**3.2 Mixtures**

Chemical name	CAS No. EC No. Index No.	Weight-%	Classification according to Regulation (EC) No. 1272/2008 [CLP]	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)
Acetic acid	64-19-7 200-580-7 607-002-00-6	40 - 50%	Flam. Liq. 3 - H226 Skin Corr. 1A - H314 Eye Dam. 1 - H318	Eye Irrit. 2 :H319: 10%<=C<25% Skin Corr. 1A :H314: C>=90% Skin Corr. 1B :H314: 25%<=C<90% Skin Irrit. 2 :H315: 10%<=C<25%	-	-
Sodium acetate	127-09-3 204-823-8 -	20 - 30%	Eye Irrit. 2 - H319		-	-

**Full text of H- and EUH-phrases: see section 16**Acute Toxicity Estimate No information available

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50 - 4 hour - dust/mist - mg/L	Inhalation LC50 - 4 hour - vapour - mg/L	Inhalation LC50 - 4 hour - gas - ppm
Acetic acid 64-19-7	3310 mg/kg	None reported	None reported	None reported	None reported
Sodium acetate 127-09-3	3530 mg/kg	None reported	> 7.5 mg/L	None reported	None reported

**Section 4: FIRST AID MEASURES****4.1. Description of first aid measures**

<b>General advice</b>	Show this safety data sheet to the doctor in attendance. Take off contaminated clothing and shoes immediately.
<b>Inhalation</b>	Remove to fresh air. If symptoms persist, call a doctor.
<b>Eye contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area. Get medical attention if symptoms occur.
<b>Skin contact</b>	Wash skin with soap and water. In the case of skin irritation or allergic reactions see a doctor.
<b>Ingestion</b>	Rinse mouth. Never give anything by mouth to an unconscious person. Do NOT induce

vomiting. Call a doctor.

**Self-protection of the first aider** Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8).

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

**Symptoms** May cause redness and tearing of the eyes. Burning sensation.

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

**Note to doctors** Treat symptomatically.

### **Section 5: FIREFIGHTING MEASURES**

#### **5.1. Extinguishing media**

**Suitable Extinguishing Media** Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable extinguishing media** No information available.

#### **5.2. Special hazards arising from the substance or mixture**

**Specific hazards arising from the chemical** Thermal decomposition can lead to release of irritating and toxic gases and vapours.

**Hazardous combustion products** carbon monoxide, carbon dioxide. This material will not burn.

#### **5.3. Advice for firefighters**

**Special protective equipment and precautions for fire-fighters** Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

**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**

**Personal precautions** Avoid contact with skin, eyes or clothing. Use personal protective equipment as required.

**For emergency responders** Use personal protection recommended in Section 8.

#### **6.2. Environmental precautions**

**Environmental precautions** Should not be released into the environment. See Section 12 for additional Ecological Information.

#### **6.3. Methods and material for containment and cleaning up**

**Methods for containment** Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up** Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Neutralise with soda ash (sodium carbonate) or lime over area of spill. Take up mechanically, placing in appropriate containers for disposal.

**Prevention of secondary hazards** Clean contaminated objects and areas thoroughly observing environmental regulations.

#### 6.4. Reference to other sections

**Reference to other sections** See section 8 for more information. See section 13 for more information.

## Section 7: HANDLING AND STORAGE

### 7.1. Precautions for safe handling

**Advice on safe handling** Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product.

**General hygiene considerations** Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product.

### 7.2. Conditions for safe storage, including any incompatibilities

**Storage Conditions** Keep containers tightly closed in a dry, cool and well-ventilated place.

### 7.3. Specific end use(s)

**Specific use(s)** Analytical reagent.

**Risk Management Methods (RMM)** The information required is contained in this Safety Data Sheet.

## Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1. Control parameters

#### Exposure Limits

Chemical name	European Union	United Kingdom	Ireland
Acetic acid 64-19-7	TWA: 25 mg/m <sup>3</sup> TWA: 10 ppm STEL: 50 mg/m <sup>3</sup> STEL: 20 ppm	TWA: 10 ppm TWA: 25 mg/m <sup>3</sup> STEL: 20 ppm STEL: 50 mg/m <sup>3</sup>	TWA: 20 ppm TWA: 50 mg/m <sup>3</sup> STEL: 20 ppm STEL: 50 mg/m <sup>3</sup>

**Derived No Effect Level (DNEL)** No information available

**Predicted No Effect Concentration (PNEC)** No information available.

### 8.2. Exposure controls

**Engineering controls** Technical measures and appropriate working operations should be given priority over the use of personal protective equipment. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Personal protective equipment  
Eye/face protection** Wear safety glasses with side shields (or goggles).

**Hand protection** Wear suitable gloves. Barrier creams may help to protect the exposed areas of skin. Gloves

must be inspected prior to use. The selected protective gloves have to satisfy the specifications of EU Directive 2016/425 and the standard EN 374-1:2016 derived from it. Chemical resistant gloves made of butyl rubber or nitrile rubber category III acco.

Gloves			
Duration of contact	PPE - Glove material	Glove thickness	Break through time
Long term (repeated)	Wear protective Viton™ gloves	0,70 mm	>480 minutes
Short term	Wear protective nitrile rubber gloves	0,20 mm	>30 minutes

<b>Skin and body protection</b>	Wear suitable protective clothing. Wash contaminated clothing before reuse.
<b>Respiratory protection</b>	Ensure adequate ventilation. No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required. Wear breathing apparatus if exposed to vapours/dusts/aerosols.
<b>Recommended filter type:</b>	ABEK-P3.
<b>General hygiene considerations</b>	Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product.
<b>Environmental exposure controls</b>	Do not allow into any sewer, on the ground or into any body of water.

## Section 9: PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. Information on basic physical and chemical properties

**Physical state** Liquid

**Colour** colourless

**Odour** Vinegar

**Odour threshold** No data available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
<b>Molecular weight</b>	No data available	
<b>pH</b>	4.0	@ 20 °C
<b>Melting point / freezing point</b>	~ -6 °C / 21.2 °F	
<b>Initial boiling point and boiling range</b>	102 °C / 215.6 °F	
<b>Evaporation rate</b>	0.76 (water = 1)	
<b>Vapour pressure</b>	3 mm Hg / 0.4 kPa at 25 °C / 77 °F	
<b>Relative vapor density</b>	1	
<b>Partition coefficient</b>	Not applicable	
<b>Soil Organic Carbon-Water Partition Coefficient</b>	Not applicable	
<b>Autoignition temperature</b>	No data available	
<b>Decomposition temperature</b>	No data available	

**Dynamic viscosity** No data available  
**Kinematic viscosity** No data available  
**Relative density** 1.130 g/mL @ 20 °C

**Solubility(ies)****Water solubility**

Water solubility classification	Water solubility	Water Solubility Temperature
Soluble	> 1000 mg/L	25 °C / 77 °F

**Solubility in other solvents**

Chemical Name	Solubility classification	Solubility	Solubility Temperature
Acid	Soluble	> 1000 mg/L	25 °C / 77 °F

**Metal Corrosivity**

**Steel Corrosion Rate** 1.02 mm/yr / 0.04 in/yr  
**Aluminum Corrosion Rate** 0.28 mm/yr / 0.01 in/yr

**Explosive properties**

**Upper explosion limit** No data available  
**Lower explosion limit** No data available

**Flammable properties**

**Flash point** > 94 °C / 201.2 °F  
**Method** CC (closed cup)

**Flammability**

**Upper flammability limit:** No data available  
**Lower flammability limit** No data available

**Oxidising properties** No data available.

**Bulk density** No data available

**9.2. Other information**

No information available.

**Section 10: STABILITY AND REACTIVITY****10.1. Reactivity**

**Reactivity** No information available.

**10.2. Chemical stability**

**Stability** Stable under normal conditions.

**10.3. Possibility of hazardous reactions**

**Possibility of hazardous reactions** None under normal processing.

#### 10.4. Conditions to avoid

**Conditions to avoid** To avoid thermal decomposition, do not overheat. Protect from moisture.

#### 10.5. Incompatible materials

**Incompatible materials** Oxidising agent.

#### 10.6. Hazardous decomposition products

**Hazardous Decomposition Products** Thermal decomposition can lead to release of irritating and toxic gases and vapours.

## Section 11: TOXICOLOGICAL INFORMATION

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

#### **Acute toxicity**

Based on available data, the classification criteria are not met

Mixture No data available.

Substance No data available.

#### **Oral Exposure Route:**

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Acetic acid	Rat LD <sub>50</sub>	3310 mg/kg	None reported	None reported	Vendor SDS
Sodium acetate	Rat LD <sub>50</sub>	3530 mg/kg	None reported	None reported	IUCLID

#### **Inhalation (Dust/Mist) Exposure Route:**

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sodium acetate	Rat LC <sub>50</sub>	> 7.5 mg/L	4 hours	None reported	Vendor SDS

**Acute Toxicity Estimate (ATE)** Not applicable

#### **Unknown acute toxicity**

0 % of the mixture consists of ingredient(s) of unknown toxicity.

#### **Skin corrosion/irritation**

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

Mixture No data available.

#### **Key literature references and sources for data**

Outside testing



Substance Test data reported below.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Acetic acid	Draize Test	Rabbit	0.050 mg	None reported	Corrosive to skin	HSDB
Sodium acetate	Draize Test	Rabbit	500 mg	24 hours	Mild skin irritant	RTECS

#### **Serious eye damage/eye irritation**

Classification based on data available for ingredients. Causes serious eye irritation.

Mixture No data available.

Substance No data available.

#### **Respiratory or skin sensitisation**

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

Mixture No data available.

Substance No data available.

#### **STOT - single exposure**

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

Mixture No data available.

Substance No data available.

#### **STOT - repeated exposure**

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

Mixture No data available.

Substance No data available.

#### **Germ cell mutagenicity**

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

Mixture invitro **Data** No data available.

Substance invitro **Data** No data available.

Mixture invivo **Data** No data available.

Substance invivo **Data** No data available.

#### **Carcinogenicity**

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

Mixture No data available.

Substance No data available.

#### **Reproductive toxicity**

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

Mixture No data available.

Substance No data available.

#### Aspiration hazard

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

#### 11.2. Information on other hazards

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

##### 11.2.1. Endocrine disrupting properties

**Endocrine disrupting properties** This product does not contain any known or suspected endocrine disruptors.

##### 11.2.2. Other information

**Other adverse effects** No information available.

## Section 12: ECOLOGICAL INFORMATION

#### 12.1. Toxicity

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

**Unknown aquatic toxicity** Contains 0 % of components with unknown hazards to the aquatic environment.

#### Mixture

**Acute aquatic toxicity:** No data available.

**Aquatic Chronic Toxicity:** No data available.

#### Substance

**Acute aquatic toxicity:** Test data reported below.

Fish:

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Acetic acid	96 hours	<i>Pimephales promelas</i>	LC <sub>50</sub>	79 mg/L	GESTIS

Crustacea:

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Acetic acid	48 Hours	None reported	LC <sub>50</sub>	90.1 mg/L	GESTIS
Sodium acetate	48 Hours	<i>Daphnia magna</i>	EC <sub>50</sub>	>= 1000 mg/L	Vendor SDS

**Aquatic Chronic Toxicity:** No data available.

#### 12.2. Persistence and degradability

**Mixture** No data available.

#### 12.3. Bioaccumulative potential

**Mixture:** No data available.

**Partition coefficient** Not applicable

#### 12.4. Mobility in soil

Soil Organic Carbon-Water Partition Coefficient Not applicable

### 12.5. Results of PBT and vPvB assessment

The components in this formulation do not meet the criteria for classification as PBT or vPvB.

Chemical name	PBT and vPvB assessment
Acetic acid	The substance is not PBT / vPvB
Sodium acetate	The substance is not PBT / vPvB

### 12.6. Endocrine disrupting properties

**Endocrine Disruptor Information:** This product does not contain any known or suspected endocrine disruptors

### 12.7. Other adverse effects

No information available.

Ozone: Not applicable

**Ozone depletion potential (ODP):** No information available

## Section 13: DISPOSAL CONSIDERATIONS

### 13.1. Waste treatment methods

#### Advice on Disposal

**Waste from residues/unused products** Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

#### Waste disposal number (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 (used product)

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.

**Contaminated packaging** Dispose of contents/containers in accordance with local regulations.

**Other Information** Waste codes should be assigned by the user based on the application for which the product was used.

## Section 14: TRANSPORT INFORMATION

### ADR

14.1 UN number or ID number Not regulated  
 14.2 UN proper shipping name Not regulated  
 14.3 Transport hazard class(es) Not regulated  
 14.4 Packing Group Not regulated

14.5 Environmental hazards Not applicable  
 14.6 Special precautions for user  
 Special Provisions None

**IATA**

14.1 UN number or ID number Not regulated  
 14.2 UN proper shipping name Not regulated  
 14.3 Transport hazard class(es) Not regulated  
 14.4 Packing group Not regulated  
 14.5 Environmental hazards Not applicable  
 14.6 Special precautions for user  
 Special Provisions None

**IMDG**

14.1 UN number or ID number Not regulated  
 14.2 UN proper shipping name Not regulated  
 14.3 Transport hazard class(es) Not regulated  
 14.4 Packing Group Not regulated  
 14.5 Environmental hazards Not applicable  
 14.6 Special precautions for user  
 Special Provisions None  
 14.7 Maritime transport in bulk according to IMO instruments No information available

**Additional information**

If the item is part of a reagent set or kit the classification would change to the following:  
 UN3316 Chemical Kit, Hazard Class 9, Packing Group II or III.  
 If the item is not regulated, the Chemical Kit classification does not apply.

**Section 15: REGULATORY INFORMATION****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****National regulations****European Union**

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

**Authorisations and/or restrictions on use:**

This product contains one or more substance(s) subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

Chemical name	Restricted substance per REACH Annex XVII	Substance subject to authorisation per REACH Annex XIV
Acetic acid - 64-19-7	Use restricted. See entry 75.	

**Persistent Organic Pollutants** Not applicable

**Dangerous substance category per Seveso Directive (2012/18/EU)**

• Non-controlled

**Ozone-depleting substances (ODS) regulation (EC) 1005/2009**

Not applicable

**Germany****Water hazard class (WGK)** slightly hazardous to water (WGK 1)**France****Occupational Illnesses (R-463-3, France)**

Chemical name	French RG number	Title
Acetic acid 64-19-7	RG 5, RG 14, RG 15, RG 15bis, RG 20bis	-

**International Inventories**

<b>EINECS/ELINCS</b>	Complies
<b>TSCA</b>	Complies
<b>DSL/NDSL</b>	Complies
<b>ENCS</b>	Complies
<b>IECSC</b>	Complies
<b>KECL</b>	Complies
<b>PICCS</b>	Complies
<b>AICS</b>	Complies

**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List**ENCS** - Japan Existing and New Chemical Substances**IECSC** - China Inventory of Existing Chemical Substances**KECL** - Korean Existing and Evaluated Chemical Substances**PICCS** - Philippines Inventory of Chemicals and Chemical Substances**AICS** - Australian Inventory of Chemical Substances**15.2. Chemical safety assessment****Chemical Safety Report** Chemical safety assessments for substances in this mixture were not carried out.**Section 16: OTHER INFORMATION**

<b>Issue Date</b>	07-Jul-2016
<b>Revision Date</b>	26-Jul-2024
<b>Revision Note</b>	updated SDS sections: 3 9 11 12

**Key or legend to abbreviations and acronyms used in the safety data sheet****Legend**

**	Hazard Designation
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieure
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
CAS	Chemical Abstracts Service Number
Ceiling	Maximum limit value
CLP	Classification, Labelling and Packaging of substances and mixtures [Regulation (EC) No. 1272/2008]
DNEL	Derived No Effect Level (DNEL)
EC	European Community
ECHA	ECHA (The European Chemicals Agency)
EC50	Effective Concentration to 50% of a test population
EEC	European Economic Community
EN	European Standard
IMDG	International Maritime Dangerous Goods (IMDG)
IATA	International Air Transport Association (IATA)
IATA-DGR	International Air Transport Association - Dangerous Goods Regulations
ICAO	International Civil Aviation Organization
ICAO-TI	International Civil Aviation Organization - Technical Instructions
IUCLID	IUCLID (The International Uniform Chemical Information Database)
GHS	Globally Harmonized System of Classification and Labelling of Chemicals
LOAEL	Lowest observed adverse effect level
LOAEC	Lowest observed adverse effect concentration
LC50	Lethal Concentration to 50% of a test population
LD50	Lethal Dose to 50% of a test population (Median Lethal Dose)
LOLI	LOLI (List of Lists - An International Chemical Regulatory Database)
MAK	Maximale Arbeitsplatz-Konzentration, a German expression corresponding to threshold limit value, which relates to safe daily exposure levels to chemical substances
NOAEL	NOAEL (No observed adverse effect level)
NOAEC	No observed adverse effect concentration
OSHA	OSHA (Occupational Safety and Health Administration of the US Department of Labour)
PEC	Predicted Effect Concentration
PNEC	Predicted No Effect Concentration (PNEC)
PBT	Persistent, Bioaccumulative, and Toxic (PBT) Chemicals
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals [Regulation (EC) No. 1907/2006]
RTECS	RTECS (Registry of Toxic Effects of Chemical Substances)
TWA	TWA (time-weighted average)
SKN*	Skin designation
SKN+	Skin sensitisation
STEL	STEL (Short Term Exposure Limit)
STOT	Specific Target Organ Toxicity
STOT RE	Specific target organ toxicity — repeated exposure
STOT SE	Specific target organ toxicity — single exposure
SVHC	Substances of Very High Concern
TLV	Threshold Limit Value
TRGS	Technical rules for hazardous substances, Germany
TSCA	Toxic Substances Control Act
UN	United Nations
vPvB	very persistent and very bioaccumulative
VOC	Volatile organic compounds
AwSV	Administrative regulation of water polluting substances, Germany

**Key literature references and sources for data**

See Section 11: TOXICOLOGICAL INFORMATION

See Section 12: ECOLOGICAL INFORMATION

**Classification procedure**

<b>Classification according to Regulation (EC) No. 1272/2008 [CLP]</b>	<b>Method Used</b>
Acute oral toxicity	Calculation method
Acute dermal toxicity	Calculation method
Acute inhalation toxicity - gas	Calculation method
Acute inhalation toxicity - Vapour	Calculation method
Acute inhalation toxicity - dust/mist	Calculation method
Skin corrosion/irritation	Calculation method
Serious eye damage/eye irritation	On basis of test data
Respiratory sensitisation	Calculation method
Skin sensitisation	Calculation method
Mutagenicity	Calculation method
Carcinogenicity	Calculation method
Reproductive toxicity	Calculation method
STOT - single exposure	Calculation method
STOT - repeated exposure	Calculation method
Acute aquatic toxicity	Calculation method
Chronic aquatic toxicity	Calculation method
Aspiration toxicity	Calculation method
Ozone	Calculation method

**Full text of H-Statements referred to under section 3**

H226 - Flammable liquid and vapour

H314 - Causes severe skin burns and eye damage

H318 - Causes serious eye damage

H319 - Causes serious eye irritation

**Training Advice**

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

**Prepared By**

Hach Product Compliance Department

**Restrictions on use**

For Research and Development Only

**This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006****End of Safety Data Sheet**