

according to Regulation (EC) No 1907/2006

Perchloric solution (0,1M)

Revision date: 27.02.2017

Product code: P100

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

Perchloric solution (0,1M)

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

Use as laboratory reagent

1.3. Details of the supplier of the safety data sheet

Company name:	Waldeck GmbH & Co KG	
	Division Chroma	
Street:	Havixbecker Str. 62	
Place:	D-48161 Münster	
Post-office box:	410180	
	D-48065 Münster	
Telephone:	+49(0)180/2247662	Telefax: +49(0)180/1247662
Responsible Department:	Labor	
	Mo. – Do.: 08.00 – 17.00 Uhr, Fr.: 08.00 – 15.00 Uhr	
1.4. Emergency telephone number:	+49(0)180/2247662	

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

Hazard categories:

Flammable liquid: Flam. Liq. 3

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

Skin corrosion/irritation: Skin Corr. 1A

Serious eye damage/eye irritation: Eye Dam. 1

Hazard Statements:

Flammable liquid and vapour.

May be corrosive to metals.

Causes severe skin burns and eye damage.

Causes serious eye damage.

2.2. Label elements**Regulation (EC) No. 1272/2008****Hazard components for labelling**

Acetic acid 100 %

acetic anhydride

Perchloric acid 70 %

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.

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Precautionary statements

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P241	Use explosion-proof electrical/ventilating/lighting equipment.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
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.
P310	Immediately call a POISON CENTER/doctor.
P390	Absorb spillage to prevent material damage.
P403+P235	Store in a well-ventilated place. Keep cool.

2.3. Other hazards

No information available.

SECTION 3: Composition/information on ingredients**3.2. Mixtures****Hazardous components**

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification according to Regulation (EC) No. 1272/2008 [CLP]			
64-19-7	Acetic acid 100 %			90 - < 95 %
	200-580-7			
	Flam. Liq. 3, Met. Corr. 1, Skin Corr. 1A; H226 H290 H314			
108-24-7	acetic anhydride			1 - < 5 %
	203-564-8	607-008-00-9		
	Flam. Liq. 3, Acute Tox. 4, Acute Tox. 4, Skin Corr. 1B; H226 H332 H302 H314			
7601-90-3	Perchloric acid 70 %			1 - < 5 %
	231-512-4	017-006-00-4		
	Ox. Liq. 1, Skin Corr. 1A; H271 H314			

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

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

First aider: Pay attention to self-protection! Remove affected person from the danger area and lay down.

After inhalation

Provide fresh air. Medical treatment necessary.

After contact with skin

After contact with skin, wash immediately with polyethylene glycol, followed by plenty of water. Take off immediately all contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical advice/attention.

After contact with eyes

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.

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After ingestion

Rinse mouth immediately and drink plenty of water. Do NOT induce vomiting. Adverse human health effects and symptoms: Gastric perforation. Call a physician immediately. Do not allow a neutralisation agent to be drunk.

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

No information available.

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**

Water spray jet, Carbon dioxide (CO₂), Foam, Extinguishing powder.

5.2. Special hazards arising from the substance or mixture

Flammable. Vapours can form explosive mixtures with air.

5.3. Advice for firefighters

Wear a self-contained breathing apparatus and chemical protective clothing. Full protection suit.

Additional information

Use water spray jet to protect personnel and to cool endangered containers. Suppress gases/vapours/mists with water spray jet. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Remove all sources of ignition. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes. Use personal protection equipment.

6.2. Environmental precautions

Do not allow uncontrolled discharge of product into the environment. Danger of explosion

6.3. Methods and material for containment and cleaning up

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal.

6.4. Reference to other sections

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

SECTION 7: Handling and storage**7.1. Precautions for safe handling****Advice on safe handling**

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray.

Advice on protection against fire and explosion

Keep away from sources of ignition. - No smoking. Take precautionary measures against static discharges.

Vapours can form explosive mixtures with air.

7.2. Conditions for safe storage, including any incompatibilities**Requirements for storage rooms and vessels**

Keep container tightly closed. Keep locked up. Store in a place accessible by authorized persons only. Provide adequate ventilation as well as local exhaust at critical locations. Keep in a cool, well-ventilated place. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Unsuitable

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container/equipment material: Metal.

Advice on storage compatibility

Do not store together with: Oxidising agent. Pyrophoric or self-heating substances.

Further information on storage conditions

storage temperature: at room temperature

7.3. Specific end use(s)

Use as laboratory reagent

SECTION 8: Exposure controls/personal protection**8.1. Control parameters****Exposure limits (EH40)**

CAS No	Substance	ppm	mg/m ³	fibres/ml	Category	Origin
64-19-7	Acetic acid	10	25		TWA (8 h)	EU
		15	37		STEL (15 min)	EU
108-24-7	Acetic anhydride	0.5	2.5		TWA (8 h)	WEL
		2	10		STEL (15 min)	WEL

8.2. Exposure controls**Appropriate engineering controls**

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray.

Protective and hygiene measures

Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme.

Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat or drink.

Eye/face protection

Suitable eye protection: goggles.

Hand protection

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. 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.

Skin protection

Wear suitable protective clothing.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Physical state:	liquid
Colour:	colourless
Odour:	stinging

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Test method

pH-Value: ~2,5

Changes in the physical state

Melting point: not determined

Flash point: 40 °C

Flammability

Solid: not applicable

Gas: not applicable

Lower explosion limits: ca. 4 vol. %

Upper explosion limits: ca. 17 vol. %

Ignition temperature: 485 °C

Auto-ignition temperature

Solid: not applicable

Gas: not applicable

Decomposition temperature: not determined

Oxidizing properties

Not oxidizing.

Vapour pressure: not determined

Density (at 20 °C): 1,06 g/cm³

Water solubility: miscible

Solubility in other solvents

not determined

Partition coefficient: not determined

Vapour density: not determined

Evaporation rate: not determined

9.2. Other information

Solid content: not determined

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

Corrosive to metals. Flammable.

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

Violent reaction with: Strong alkali, aldehydes, Nitric acid

10.4. Conditions to avoid

Keep away from sources of heat (e.g. hot surfaces), sparks and open flames. Vapours can form explosive mixtures with air.

10.5. Incompatible materials

Keep away from: Metal.

10.6. Hazardous decomposition products

No known hazardous decomposition products.

SECTION 11: Toxicological information

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11.1. Information on toxicological effects**Acute toxicity**

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
64-19-7	Acetic acid 100 %				
	oral	LD50 mg/kg	3310	Rat	GESTIS
108-24-7	acetic anhydride				
	oral	LD50 mg/kg	1780	Rat	GESTIS
	dermal	LD50 mg/kg	4290	Rabbit	GESTIS
	inhalative (4 h) vapour	LC50	4,18 mg/l	Rat	GESTIS
	inhalative aerosol	ATE	1,5 mg/l		

Additional information on tests

This mixture is classified as hazardous according to regulation (EC) No. 1272/2008 [CLP].

SECTION 12: Ecological information**12.1. Toxicity**

The product is not: Ecotoxic.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
64-19-7	Acetic acid 100 %					
	Acute fish toxicity	LC50	88 mg/l	96 h Pimephales promelas (fathead minnow)	GESTIS	
	Acute crustacea toxicity	EC50	65 mg/l	48 h Daphnia magna	Janssen et al	

12.2. Persistence and degradability

The product has not been tested.

12.3. Bioaccumulative potential

The product has not been tested.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
64-19-7	Acetic acid 100 %	-0,17
108-24-7	acetic anhydride	-0,2

12.4. Mobility in soil

The product has not been tested.

12.5. Results of PBT and vPvB assessment

The product has not been tested.

12.6. Other adverse effects

No information available.

Further information

Avoid release to the environment.

SECTION 13: Disposal considerations**13.1. Waste treatment methods**

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Advice on disposal

Do not allow to enter into surface water or drains. Dispose of waste according to applicable legislation.



Contaminated packaging

Wash with plenty of water. Completely emptied packages can be recycled.



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

14.1. UN number:	UN 2789
14.2. UN proper shipping name:	ACETIC ACID SOLUTION
14.3. Transport hazard class(es):	8
14.4. Packing group:	II
Hazard label:	8+3
	 
Classification code:	CF1
Limited quantity:	1 L
Excepted quantity:	E2
Transport category:	2
Hazard No:	83
Tunnel restriction code:	D/E

Inland waterways transport (ADN)

14.1. UN number:	UN 2789
14.2. UN proper shipping name:	ACETIC ACID SOLUTION
14.3. Transport hazard class(es):	8
14.4. Packing group:	II
Hazard label:	8+3
	 
Classification code:	CF1
Limited quantity:	1 L
Excepted quantity:	E2

Marine transport (IMDG)

14.1. UN number:	UN 2789
14.2. UN proper shipping name:	ACETIC ACID SOLUTION
14.3. Transport hazard class(es):	8
14.4. Packing group:	II
Hazard label:	8+3
	 
Special Provisions:	-
Limited quantity:	1 L
Excepted quantity:	E2
EmS:	F-E, S-C

Air transport (ICAO-TI/IATA-DGR)

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14.1. UN number: UN 2789
14.2. UN proper shipping name: ACETIC ACID SOLUTION
14.3. Transport hazard class(es): 8
14.4. Packing group: II
Hazard label: 8+3



Limited quantity Passenger: 0.5 L
Passenger LQ: Y840
Excepted quantity: E2
IATA-packing instructions - Passenger: 851
IATA-max. quantity - Passenger: 1 L
IATA-packing instructions - Cargo: 855
IATA-max. quantity - Cargo: 30 L

14.6. Special precautions for user

No information available.

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

not applicable

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

Restrictions on use (REACH, annex XVII):

Entry 3: acetic anhydride; Perchloric acid 70 %

2010/75/EU (VOC): 98,55 % (1044,63 g/l)

2004/42/EC (VOC): 98,55 % (1044,63 g/l)

Additional information

Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers. Observe restrictions to employment for juvenils according to the 'juvenile work protection guideline' (94/33/EC).

National regulatory information

Employment restrictions: Observe restrictions to employment for juvenils according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

Water contaminating class (D): 1 - slightly water contaminating

15.2. Chemical safety assessment

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

SECTION 16: Other information**Abbreviations and acronyms**

ADR: Accord européen sur le transport des marchandises dangereuses par Route
(European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances

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ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service

LC50: Lethal concentration, 50%

LD50: Lethal dose, 50%

Relevant H and EUH statements (number and full text)

H226	Flammable liquid and vapour.
H271	May cause fire or explosion; strong oxidiser.
H290	May be corrosive to metals.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H332	Harmful if inhaled.

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 receiver of our product is singularly responsible for adhering to existing laws and regulations.

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