

Multielement-Standardlösung 3 Elemente in HCl 5 % (V/V) + 1 % Soda/Borax (4+1)

Revision date: 16.05.2024

Product code: 33341

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

1.1. Product identifier

Multielement-Standardlösung 3 Elemente in HCl 5 % (V/V) + 1 % Soda/Borax (4+1)

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

Use of the substance/mixture

Laboratory chemicals

Industrial uses: Uses of substances as such or in preparations at industrial sites

Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

Uses advised against

Do not use for private purposes (household).

1.3. Details of the supplier of the safety data sheet

Company name:	AnalytiChem GmbH ACD	
Street: Place:	Stempelstraße 6 D-47167 Duisburg	
Telephone: E-mail:	0203/5194-0 info@analytichem.de	Telefax: 0203/5194-290
Contact person: E-mail: Internet: Responsible Department:	Abteilung Produktsicherheit produktsicherheit@analytichem.de www.analytichem.de Abteilung Produktsicherheit	Telephone: 0203/5194-107/117
<u>1.4. Emergency telephone</u> number:	Exposure, or Accident Call CHEMTF	ous Goods] Incidents Spill, Leak, Fire, REC Day or Night Within USA and Canada: Canada: +1 703-741-5970 (collect calls

Further Information

This product is a mixture. REACH Registration Number see section 3.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008 Met. Corr. 1; H290

Full text of hazard statements: see SECTION 16.

2.2. Label elements

Regulation (EC) No 1272/2008

Signal word:

Pictograms:



Hazard statements

H290

May be corrosive to metals.

Precautionary statements

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P234	Keep only in original packaging.
P390	Absorb spillage to prevent material damage.
P406	Store in a corrosion-resistant container with a resistant inner liner.



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2.3. Other hazards

No data available

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical characterization

Mixtures in aqueous solution

Relevant ingredients

CAS No	Chemical name				
	EC No	Index No	REACH No		
	Classification (Regulation	(EC) No 1272/2008)			
7647-01-0	Hydrochloric acid			1 - < 5 %	
	231-595-7				
	Skin Corr. 1B, STOT SE 3; H314 H335				
1330-43-4	boric acid, disodium salt	< 1 %			
	215-540-4	005-011-00-4	01-2119490790-32		
	Repr. 1B, Eye Irrit. 2; H3	60FD H319			
7697-37-2	nitric acid			< 0.1 %	
	231-714-2	007-030-00-3	01-2119487297-23		
Ox. Liq. 3, Met. Corr. 1, Acute Tox. 3, Skin Corr. 1A; H272 H290 H331 H314 EUH071					

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

Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity	
	Specific Conc. Limits, M-factors and ATE			
7647-01-0	231-595-7	Hydrochloric acid	1 - < 5 %	
	Skin Corr. 1B; H314: >= 25 - 100 Skin Irrit. 2; H315: >= 10 - < 25 Eye Irrit. 2; H319: >= 10 - < 25 STOT SE 3; H335: >= 10 - 100			
1330-43-4	215-540-4	boric acid, disodium salt	< 1 %	
	inhalation: LC50 = > 2,04 mg/l (dusts or mists); dermal: LD50 = > 2000 mg/kg; oral: LD50 = > 2500 mg/kg			
7697-37-2	231-714-2	nitric acid	< 0.1 %	
	inhalation: ATE 2,65 mg/l (vapours) Ox. Liq. 3; H272: >= 65 - 100 Skin Corr. 1A; H314: >= 20 - 100 Skin Corr. 1B; H314: >= 5 - < 20			

Further Information

This mixture contains the following substances of very high concern (SVHC) which are included in the Candidate List according to Article 59 of REACH: disodium tetraborate, anhydrous

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

No data available

After inhalation

Provide fresh air. Call a doctor if you feel unwell.

After contact with skin

Wash immediately with: Water Take off immediately all contaminated clothing and wash it before reuse.



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In case of skin irritation, consult a physician.

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.

Remove contact lenses, if present and easy to do. Continue rinsing.

After ingestion

Rinse mouth immediately and drink plenty of water. Call a physician immediately.

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

Irritant

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

No data available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Co-ordinate fire-fighting measures to the fire surroundings.

Unsuitable extinguishing media

no restriction

5.2. Special hazards arising from the substance or mixture

Non-combustible liquids Hazardous combustion products In case of fire may be liberated: Hydrochloric gas

5.3. Advice for firefighters

Wear a self-contained breathing apparatus and chemical protective clothing. Full protection suit. Avoid contact with skin, eyes and clothes.

Additional information

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

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General advice

Corrosive to metals.

For non-emergency personnel

Provide adequate ventilation. Use personal protection equipment. Avoid contact with skin, eyes and clothes. Remove persons to safety. Emergency procedures Consult an expert Do not breathe dust/fume/gas/mist/vapours/spray.

For emergency responders

Precautionary statements For emergency responders : Personal protection equipment: see section 8

6.2. Environmental precautions

Do not allow to enter into surface water or drains.

6.3. Methods and material for containment and cleaning up

For containment

Cover drains.



Safety Data Sheet

according to Regulation (EC) No 1907/2006

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Prevent spread over a wide area (e.g. by containment or oil barriers).

Collect in closed and suitable containers for disposal.

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

For cleaning up

Clean contaminated articles and floor according to the environmental legislation.

Other information

Provide adequate ventilation. Do not breathe dust/fume/gas/mist/vapours/spray. Wear breathing apparatus if exposed to vapours/dusts/aerosols.

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. Read label before use. Handle and open container with care.

When using do not eat, drink, smoke, sniff. Keep container tightly closed.

Use personal protection equipment. Use extractor hood (laboratory).

Provide adequate ventilation.

Avoid contact with skin, eyes and clothes.

Advice on protection against fire and explosion

Usual measures for fire prevention.

Advice on general occupational hygiene

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. The choice of body protection depends on the concentration and quantity of hazardous substances. The chemical resistance of protective agents must be clarified with their suppliers.

Further information on handling

Draw up and observe skin protection programme.

Wash hands and face before breaks and after work and take a shower if necessary.

Take off immediately all contaminated clothing and wash it before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed.

Further information on storage conditions

Unsuitable container/equipment material: Metal

7.3. Specific end use(s)

Laboratory chemicals

SECTION 8: Exposure controls/personal protection

8.1. Control parameters



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Occupational exposure limits

CAS No	Substance	ppm	mg/m³	fib/cm³	Category	Origin
7429-90-5	Aluminium metal (Respirable Fraction)	-	1		TWA (8 h)	
1330-43-4	Borate compounds inorganic: Borate (tetra) sodium anhydrous	-	2		TWA (8 h)	
7647-01-0	Hydrogen chloride	5	8		TWA (8 h)	
		10	15		STEL (15 min)	
7697-37-2	Nitric acid	1	2.6		STEL (15 min)	
7440-21-3	Silicon Si, respirable dust	-	4		TWA (8 h)	
1310-73-2	Sodium hydroxide	-	2		STEL (15 min)	

DNEL/DMEL values

CAS No	Substance						
DNEL type		Exposure route	Effect	Value			
7647-01-0	Hydrochloric acid						
Worker DNEL,	long-term	inhalation	local	8 mg/m³			
Worker DNEL,	acute	inhalation	local	15 mg/m³			
Consumer DN	EL, long-term	inhalation	local	8 mg/m³			
Consumer DN	EL, acute	inhalation	local	15 mg/m³			
1330-43-4	boric acid, disodium salt						
Worker DNEL,	long-term	inhalation	systemic	6,7 mg/m³			
Worker DNEL, long-term		dermal	systemic	316,4 mg/kg bw/day			
Consumer DN	EL, long-term	inhalation	systemic	3,4 mg/m³			
Consumer DNEL, long-term		dermal	systemic	159,5 mg/kg bw/day			
Consumer DNEL, long-term		oral	systemic	0,79 mg/kg bw/day			
Consumer DNEL, acute		oral	systemic	0,79 mg/kg bw/day			
1310-73-2	3-2 sodium hydroxide						
Worker DNEL, long-term local				1 mg/m³			
Consumer DN	EL, long-term	inhalation	local	1 mg/m³			

PNEC values

CAS No	Substance				
Environmental compartment Value					
1330-43-4 boric acid, disodium salt					
Freshwater 2,9 mg/l					
Freshwater (intermittent releases) 13,7 mg/l					
Marine water 2,9 mg/l					
Micro-organisms in sewage treatment plants (STP) 10 mg/l					
Soil 5,7 m					

8.2. Exposure controls

Appropriate engineering controls

Technical measures and the application of suitable work processes have priority over personal protection



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equipment.

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

Individual protection measures, such as personal protective equipment

Eve/face protection

Suitable eye protection: Face protection shield 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.

Protective gloves are recommended Company KCL GmbH, D-36124 Eichenzell, email: vertrieb@kcl.de With specification (test according to EN374):

By long-term hand contact Recommended glove articles: KCL 741 Dermatril® L Recommended material: NBR (Nitrile rubber) 0,11 mm Wearing time with permanent contact: > 480 min

By short-term hand contact Recommended glove articles: KCL 741 Dermatril® L Recommended material: NBR (Nitrile rubber) 0,11 mm Wearing time with occasional contact (splashes): > 480 min

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types. This recommendation applies only to the product stated in the safety data sheet<(>,<)> supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Skin protection

Wear suitable protective clothing. Protective clothing acid-resistant

Respiratory protection

Respiratory protection necessary at: aerosol or mist formation The entrepeneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Environmental exposure controls

Do not allow to enter into surface water or drains.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	Liquid	
Colour:	clear	
Odour:	odourless	
Odour threshold:	No data available	
Melting point/freezing point:		No data available
Boiling point or initial boiling point and		No data available
boiling range:		
Flammability:		not applicable



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an analyti chem brand acco	ording to Regulation (EC) No 1907/2006							
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Lower explosion limits:	No data available							
Upper explosion limits:	No data available							
Flash point:	Х							
Auto-ignition temperature:	No data available							
Decomposition temperature:	No data available							
pH-Value:	acidic							
Viscosity / kinematic:	No data available							
Water solubility:	easily soluble							
Solubility in other solvents not determined	,							
Partition coefficient n-octanol/water:	No data available							
Vapour pressure:	No data available							
Vapour pressure:	No data available							
Density:	No data available							
Bulk density:	No data available							
Relative vapour density:	No data available							
9.2. Other information								
Information with regard to physical hazard cl	asses							
Explosive properties								
No data available								
Self-ignition temperature								
Solid:	not applicable							
Gas:	not applicable							
Oxidizina properties								

Oxidizing properties No data available

Other safety characteristics

Other safety characteristics	
Evaporation rate:	No data available
Solvent separation test:	No data available
Solvent content:	No data available
Solid content:	No data available
Sublimation point:	No data available
Softening point:	No data available
Pour point:	No data available
No data available:	
Viscosity / dynamic:	No data available
Flow time:	No data available
Further Information	

Further Information

Corrosive to metals

SECTION 10: Stability and reactivity

10.1. Reactivity

Corrosive to metals.

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

The product develops hydrogen in an aqueous solution in contact with metals.

10.4. Conditions to avoid

Heat

10.5. Incompatible materials

Keep away from: Metal.



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The product develops hydrogen in an aqueous solution in contact with metals.

10.6. Hazardous decomposition products

In case of fire may be liberated:

SECTION 5: Firefighting measures

Further information

No data available

SECTION 11: Toxicological information

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

Toxicocinetics, metabolism and distribution

There are no data available on the mixture itself.

Acute toxicity

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

ATEmix calculated

ATE (oral) > 2000 mg/kg; ATE (dermal) > 2000 mg/kg; ATE (inhalation vapour) > 20 mg/l; ATE (inhalation dust/mist) > 5 mg/l

CAS No	Chemical name							
	Exposure route	Dose	Species	Source	Method			
1330-43-4	boric acid, disodium salt							
	oral	LD50 > 2500 mg/kg	Rat	Study report (1996)	OECD Guideline 401			
	dermal	LD50 > 2000 mg/kg	Rabbit	Study report (1985)	other: This study was carried out to com			
	inhalation (4 h) dust/mist	LC50 > 2,04 mg/l	Rat	Study report (1994)	OECD Guideline 403			
7697-37-2	nitric acid							
	inhalation vapour ATE 2,65 mg/l							

Irritation and corrosivity

Skin corrosion/irritation: Based on available data, the classification criteria are not met. Serious eye damage/eye irritation: Based on available data, the classification criteria are not met. slightly irritant but not relevant for classification.

Sensitising effects

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

Carcinogenic/mutagenic/toxic effects for reproduction

Germ cell mutagenicity: Based on available data, the classification criteria are not met. Carcinogenicity: Based on available data, the classification criteria are not met. Reproductive toxicity: Based on available data, the classification criteria are not met.

STOT-single exposure

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

STOT-repeated exposure

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

Aspiration hazard

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

Specific effects in experiment on an animal

There are no data available on the mixture itself.

Additional information on tests

There are no data available on the mixture itself.



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Practical experience

There are no data available on the mixture itself.

11.2. Information on other hazards

Other information

There are no data available on the mixture itself.

Further information

Irritant

SECTION 12: Ecological information

12.1. Toxicity

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

CAS No	Chemical name								
	Aquatic toxicity	Dose		[h] [d]	Species	Source	Method		
7647-01-0	Hydrochloric acid	Hydrochloric acid							
	Acute fish toxicity	LC50	862 mg/l	96 h	Leuciscus idus				
1330-43-4	boric acid, disodium salt								
	Acute fish toxicity	LC50 mg/l	79,7	96 h	Pimephales promelas	Study report (2010)	other: ASTM E729-95 Standard Guide for C		
	Acute algae toxicity	ErC50	66 mg/l	72 h	Phaeodactylum tricornutum	Study report (2011)	ISO 10253		
	Acute crustacea toxicity	EC50	102 mg/l	48 h	Ceriodaphnia dubia	Study report (2010)	other: ASTM E729-95 Standard Guide for C		
	Fish toxicity	NOEC	6,4 mg/l	34 d	Danio rerio	Study report (2000)	OECD Guideline 210		
	Algae toxicity	NOEC mg/l	17,5	3 d	Pseudokirchneriella subcapitata	Study report (2000)	OECD Guideline 201		
	Crustacea toxicity	NOEC mg/l	10,8	21 d	Daphnia magna	Study report (2000)	OECD Guideline 211		
	Acute bacteria toxicity	EC50 mg/l()	> 10000	3 h	activated sludge of a predominantly domestic sewag	Study report (2001)	OECD Guideline 209		
7697-37-2	nitric acid								
	Acute fish toxicity	LC50 mg/l	1559	96 h	Topeka shiner	Environmental Toxicology and Chemistry,	other: ASTM E729-26		
	Fish toxicity	NOEC	268 mg/l	30 d	juvenile Topeka shiner and with juvenile Fathead m	Study report (2009)	Growth tests estimated the test chemical		
	Algae toxicity	NOEC mg/l	> 419	10 d	several benthic diatoms; see results	Marine Biology 43:307-315 (1977)	Ten cultures of benthic diatoms were iso		
	Acute bacteria toxicity	EC50 mg/l()	> 1000	3 h	Activated sludge	Study report (2008)	OECD Guideline 209		

12.2. Persistence and degradability

There are no data available on the mixture itself.

12.3. Bioaccumulative potential

There are no data available on the mixture itself.



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Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow	
1330-43-4	boric acid, disodium salt	-1,53	
BCF			

CAS No	Chemical name	BCF	Species	Source
1330-43-4	boric acid, disodium salt	0,558	Oncorhynchus nerka	Water Research Vol.

12.4. Mobility in soil

There are no data available on the mixture itself.

12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

12.7. Other adverse effects

Discharge into the environment must be avoided.

Further information

Do not empty into drains.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste. Send to a physico-chemical treatment facility under observation of official regulations. Do not empty into drains.

Contaminated packaging

Handle contaminated packages in the same way as the substance itself. The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number or ID number:	UN 1789		
14.2. UN proper shipping name:	HYDROCHLORIC ACID		
14.3. Transport hazard class(es):	8		
14.4. Packing group:	III		
Hazard label:	8		
Classification code:	C1		
Special Provisions:	520		
Limited quantity:	5 L		
Excepted quantity:	E1		
Transport category:	3		
Hazard No:	80		
Tunnel restriction code:	E		
Inland waterways transport (ADN)			
14.1. UN number or ID number:	UN 1789		
14.2. UN proper shipping name:	HYDROCHLORIC ACID		
14.3. Transport hazard class(es):	8		
14.4. Packing group:	III		
Hazard label:	8		



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Classification code:	C1	
Special Provisions:	520	
Limited quantity:	5 L	
Excepted quantity:	E1	
Marine transport (IMDG)		
14.1. UN number or ID number:	UN 1789	
14.2. UN proper shipping name:	HYDROCHLORIC ACID	
<u>14.3. Transport hazard class(es):</u>	8	
14.4. Packing group:	III	
Hazard label:	8	
Special Provisions:	223	
Limited quantity:	5 L	
Excepted quantity:	E1	
EmS:	F-A, S-B	
Air transport (ICAO-TI/IATA-DGR)		
14.1. UN number or ID number:	UN 1789	
14.2. UN proper shipping name:	HYDROCHLORIC ACID	
14.3. Transport hazard class(es):	8	
14.4. Packing group:	III	
Hazard label:	8	
Special Provisions:	A3 A803	
Limited quantity Passenger:	1 L	
Passenger LQ:	Y841	
Excepted quantity:	E1	
IATA-packing instructions - Passenger:	852	
IATA-max. quantity - Passenger:	5 L	
IATA-packing instructions - Cargo:	856	
IATA-max. quantity - Cargo:	60 L	
14.5. Environmental hazards		
ENVIRONMENTALLY HAZARDOUS:	No	
SECTION 15: Regulatory information		
	Ilations/legislation specific for the substance or mixture	
	autononegiolation opecine for the outotaille of initiality	
EU regulatory information		
Authorisations (REACH, annex XIV):		
Substances of very high concern, SVF	HC (REACH, article 59):	
boric acid, disodium salt		
Restrictions on use (REACH, annex XVII)	:	
Entry 30, Entry 65, Entry 75		
Information according to Directive	Not subject to 2012/18/EU (SEVESO III)	
2012/18/EU (SEVESO III):		
Marketing and use of explosives precursors (Regulation (EU) 2019/1148):		
This product is regulated by Regulation (EU) 2019/1148: all suspicious transactions, and significant disappearances and thefts should be reported to the relevant national contact point.		
National regulatory information		
Employment restrictions:	Observe restrictions to employment for juveniles according to the 'juvenile	
Water hazard class (D):	work protection guideline' (94/33/EC). 1 - slightly hazardous to water	

SECTION 16: Other information

Changes



Multielement-Standardlösung 3 Elemente in HCI 5 % (V/V) + 1 % Soda/Borax (4+1)

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This data sheet contains changes from the previous version in section(s): 9,12.

Abbreviations and acronyms

Pyr. Sol: Pyrophoric solid Water-react: Substance and mixture which, in contact with water, emits flammable gas Ox. Lia: Oxidisina liauid Met. Corr: Substance or mixture corrosive to metals Flam. Sol: Flammable solid Acute Tox: Acute toxicity Skin Corr: Skin corrosion Eve Irrit: Eve irritation Repr: Reproductive toxicity STOT SE: Specific target organ toxicity - single exposure Aquatic Acute: Acute aquatic hazard 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 ELINCS: European List of Notified Chemical Substances CAS: Chemical Abstracts Service LC50: Lethal concentration, 50% LD50: Lethal dose, 50%

Classification for mixtures and used evaluation method according to Regulation (EC) No 1272/2008 [CLP]

Classification	Classification procedure
Met. Corr. 1; H290	On basis of test data

Relevant H and EUH statements (number and full text)

H272	May intensify fire; oxidiser.			
H290	May be corrosive to metals.			
H314	Causes severe skin burns and eye damage.			
H319	Causes serious eye irritation.			
H331	Toxic if inhaled.			
H335	May cause respiratory irritation.			
H360FD	May damage fertility. May damage the unborn child.			
EUH071	Corrosive to the respiratory tract.			

Further Information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material. Provide appropriate information, instructions and training to users

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