

Safety Data Sheet

according to Regulation (EC) No 1907/2006

TISAB solution II pH 5.0 - 5.5 for determination of fluoride for ORION 901

Revision date: 28.11.2023

Product code: 03501

Page 1 of 11

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

1.1. Product identifier

TISAB solution II pH 5.0 - 5.5 for determination of fluoride for ORION 901

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

Use of the substance/mixture

Laboratory chemical

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). No data available

1.3. Details of the supplier of the safety data sheet

Company name:	AnalytiChem GmbH	
Street:	Stempelstraße 6	
Place:	D-47167 Duisburg	
Telephone:	0203/5194-0	Telefax: 0203/5194-290
E-mail:	info@analytichem.de	
Contact person:	Abteilung Produktsicherheit	Telephone: 0203/5194-107/117
E-mail:	produktsicherheit@analytichem.de	
Internet:	www.analytichem.de	
Responsible Department:	Abteilung Produktsicherheit	

1.4. Emergency telephone number:

For Hazardous Materials [or Dangerous Goods] Incidents Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300 Outside USA and Canada: +1 703-741-5970 (collect calls accepted)

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

This mixture is not classified as hazardous in accordance with Regulation (EC) No 1272/2008.

2.2. Label elements

Regulation (EC) No 1272/2008

Special labelling of certain mixtures

EUH210 Safety data sheet available on request.

2.3. Other hazards

No information available.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical characterization

Mixtures in aqueous solution

Safety Data Sheet

according to Regulation (EC) No 1907/2006

TISAB solution II pH 5.0 - 5.5 for determination of fluoride for ORION 901

Revision date: 28.11.2023

Product code: 03501

Page 2 of 11

Relevant ingredients

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
64-19-7	acetic acid			5 - < 10 %
	200-580-7	607-002-00-6	01-2119475328-30	
	Flam. Liq. 3, Skin Corr. 1A; H226 H314			
7647-14-5	sodium chloride			5 - < 10 %
	231-598-3		01-2119485491-33	

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		
64-19-7	200-580-7	acetic acid	5 - < 10 %
	inhalation: LC50 = 11,4 mg/l (vapours); oral: LD50 = 3310 mg/kg Skin Corr. 1A; H314: >= 90 - 100 Skin Corr. 1B; H314: >= 25 - < 90 Skin Irrit. 2; H315: >= 10 - < 25 Eye Irrit. 2; H319: >= 10 - < 25		
7647-14-5	231-598-3	sodium chloride	5 - < 10 %
	dermal: LD50 = > 10000 mg/kg; oral: LD50 = 3550 mg/kg		

Further Information

This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of = 0.1 % (w/w).

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

No data available

After inhalation

Provide fresh air.

After contact with skin

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

Wash immediately with: Water

After contact with eyes

Rinse immediately carefully and thoroughly with eye-bath or water.

In case of eye irritation 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 doctor if you feel unwell.

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

No data available

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

No data available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Safety Data Sheet

according to Regulation (EC) No 1907/2006

TISAB solution II pH 5.0 - 5.5 for determination of fluoride for ORION 901

Revision date: 28.11.2023

Product code: 03501

Page 3 of 11

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

Hazardous combustion products

In case of fire may be liberated: Nitrogen oxides (NOx)

5.3. Advice for firefighters

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

Additional information

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

For non-emergency personnel

Provide adequate ventilation.

Use personal protection equipment.

Avoid contact with skin, eyes and clothes.

Remove persons to safety.

Emergency procedures

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

No special environmental measures are necessary.

6.3. Methods and material for containment and cleaning up

For containment

Cover drains.

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

Do not breathe vapour/aerosol.

Advice on protection against fire and explosion

No special fire protection measures are necessary.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

TISAB solution II pH 5.0 - 5.5 for determination of fluoride for ORION 901

Revision date: 28.11.2023

Product code: 03501

Page 4 of 11

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.

Further information on handling

Take off immediately all contaminated clothing and wash it before reuse.
If handled uncovered, arrangements with local exhaust ventilation have to be used.
Draw up and observe skin protection programme. Wash hands before breaks and after work.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed.

Further information on storage conditions

Store in a dry place.

7.3. Specific end use(s)

Laboratory chemicals

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

CAS No	Substance	ppm	mg/m ³	fib/cm ³	Category	Origin
64-19-7	Acetic acid	10	25		TWA (8 h)	
		20	50		STEL (15 min)	

Safety Data Sheet

according to Regulation (EC) No 1907/2006

TISAB solution II pH 5.0 - 5.5 for determination of fluoride for ORION 901

Revision date: 28.11.2023

Product code: 03501

Page 5 of 11

DNEL/DMEL values

CAS No	Substance	Exposure route	Effect	Value
64-19-7	acetic acid			
Worker DNEL, long-term		inhalation	local	25 mg/m ³
Worker DNEL, acute		inhalation	local	25 mg/m ³
Consumer DNEL, long-term		inhalation	local	25 mg/m ³
Consumer DNEL, acute		inhalation	local	25 mg/m ³
7647-14-5	sodium chloride			
Consumer DNEL, long-term		dermal	systemic	126,65 mg/kg bw/day
Consumer DNEL, acute		dermal	systemic	126,65 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	126,65 mg/kg bw/day
Consumer DNEL, acute		oral	systemic	126,65 mg/kg bw/day
Worker DNEL, long-term		inhalation	systemic	2068,62 mg/m ³
Worker DNEL, acute		inhalation	systemic	2068,62 mg/m ³
Worker DNEL, acute		dermal	systemic	295,52 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	443,28 mg/m ³
Consumer DNEL, acute		inhalation	systemic	443,28 mg/m ³
Worker DNEL, long-term		dermal	systemic	295,52 mg/kg bw/day

PNEC values

CAS No	Substance	Environmental compartment	Value
64-19-7	acetic acid		
		Freshwater	3,058 mg/l
		Freshwater (intermittent releases)	30,58 mg/l
		Marine water	0,306 mg/l
		Freshwater sediment	11,36 mg/kg
		Marine sediment	1,136 mg/kg
		Micro-organisms in sewage treatment plants (STP)	85 mg/l
		Soil	0,47 mg/kg
7647-14-5	sodium chloride		
		Freshwater	5 mg/l
		Micro-organisms in sewage treatment plants (STP)	500 mg/l
		Soil	4,86 mg/kg

8.2. Exposure controls

Appropriate engineering controls

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

If handled uncovered, arrangements with local exhaust ventilation have to be used.

Do not breathe vapour/aerosol.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

TISAB solution II pH 5.0 - 5.5 for determination of fluoride for ORION 901

Revision date: 28.11.2023

Product code: 03501

Page 6 of 11

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear 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.

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

Trade name/designation: KCL 741 Dermatril® L
Recommended material: NBR (Nitrile rubber) 0,11 mm
Wearing time with permanent contact: > 480 min

By short-term hand contact

Trade name/designation: 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.

Respiratory protection

Respiratory protection necessary at: aerosol or mist formation

Environmental exposure controls

Do not empty into drains.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	Liquid	
Colour:	clear	
Odour:	characteristic	
Melting point/freezing point:		No data available
Boiling point or initial boiling point and boiling range:		No data available
Flammability:		No data available
Lower explosion limits:		No data available
Upper explosion limits:		No data available
Flash point:		No data available
Auto-ignition temperature:		No data available
Decomposition temperature:		No data available
pH-Value:		5,0-5,5

Safety Data Sheet

according to Regulation (EC) No 1907/2006

TISAB solution II pH 5.0 - 5.5 for determination of fluoride for ORION 901

Revision date: 28.11.2023

Product code: 03501

Page 7 of 11

Viscosity / kinematic:	No data available
Water solubility:	No data available
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:	1,0719 g/cm ³
Bulk density:	No data available
Relative vapour density:	No data available

9.2. Other information

Information with regard to physical hazard classes

Explosive properties

In case of warming: Vapours are heavier than air, spread along floors and form explosive mixtures with air.

Sustaining combustion:

No data available

Self-ignition temperature

Solid:

No data available

Gas:

No data available

Oxidizing properties

Not oxidising.

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

No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

In case of warming: Vapours are heavier than air, spread along floors and form explosive mixtures with air.

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

No data available

10.4. Conditions to avoid

No data available

10.5. Incompatible materials

No data available

10.6. Hazardous decomposition products

In case of fire may be liberated: Nitrogen oxides (NOx)

Further information

No data available

Safety Data Sheet

according to Regulation (EC) No 1907/2006

TISAB solution II pH 5.0 - 5.5 for determination of fluoride for ORION 901

Revision date: 28.11.2023

Product code: 03501

Page 8 of 11

SECTION 11: Toxicological information

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

Toxicokinetics, 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
64-19-7	acetic acid				
	oral	LD50 3310 mg/kg	Rat	J Ind Hyg Toxicol, Vol 23, PP 78-82 (194)	The sodium salt of acetic acid was admin
	inhalation (4 h) vapour	LC50 11,4 mg/l	Rat	Study report (1980)	OECD Guideline 403
7647-14-5	sodium chloride				
	oral	LD50 3550 mg/kg	Rat	Study report	The study methodology followed appeared
	dermal	LD50 > 10000 mg/kg	Rabbit	Study report	The study methodology followed appeared to

Irritation and corrosivity

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

Sensitising effects

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

Carcinogenic/mutagenic/toxic effects for reproduction

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.

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

There are no data available on the mixture itself.

SECTION 12: Ecological information

Safety Data Sheet

according to Regulation (EC) No 1907/2006

TISAB solution II pH 5.0 - 5.5 for determination of fluoride for ORION 901

Revision date: 28.11.2023

Product code: 03501

Page 9 of 11

12.1. Toxicity

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

CAS No	Chemical name		Dose		[h] [d]	Species	Source	Method
64-19-7	acetic acid							
	Acute fish toxicity	LC50 mg/l	> 1000	96 h	Oncorhynchus mykiss	Study report (2005)	other: SOP E257	
	Acute algae toxicity	ErC50 mg/l	> 1000	72 h	Skeletonema costatum	Study report (2005)	ISO 10253	
	Acute crustacea toxicity	EC50 mg/l	> 1000	48 h	Daphnia magna	Study report (1990)	OECD Guideline 202	
7647-14-5	sodium chloride							
	Acute fish toxicity	LC50 mg/l	5840	96 h	Lepomis macrochirus	Study report (1985)	other: ASTM E729	
	Acute crustacea toxicity	EC50 mg/l	4136	48 h	Daphnia magna	J. fish. Res. Bd. Canada, 29: 1691-1700.	OECD Guideline 202	
	Fish toxicity	NOEC	252 mg/l	33 d	Pimephales promelas	Study report (1985)	OECD Guideline 210	
	Crustacea toxicity	NOEC	314 mg/l	21 d	Daphnia pulex	Memorandum of agreement No. 5429, Kentuc	OECD Guideline 211	

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.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
64-19-7	acetic acid	-0,17

BCF

CAS No	Chemical name	BCF	Species	Source
64-19-7	acetic acid	3,16	fish	Environ. Toxicol. Ch

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

Do not empty into drains.

Further information

Discharge into the environment must be avoided.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

TISAB solution II pH 5.0 - 5.5 for determination of fluoride for ORION 901

Revision date: 28.11.2023

Product code: 03501

Page 10 of 11

Do not empty into drains.

Contaminated packaging

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:	No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

Inland waterways transport (ADN)

14.1. UN number or ID number:	No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

Marine transport (IMDG)

14.1. UN number or ID number:	No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number:	No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

14.6. Special precautions for user

Warning: strongly corrosive.

14.7. Maritime transport in bulk according to IMO instruments

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 40

Information according to Directive 2012/18/EU (SEVESO III): Not subject to 2012/18/EU (SEVESO III)

National regulatory information

Water hazard class (D): 1 - slightly hazardous to water

SECTION 16: Other information

Changes

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

Safety Data Sheet

according to Regulation (EC) No 1907/2006

TISAB solution II pH 5.0 - 5.5 for determination of fluoride for ORION 901

Revision date: 28.11.2023

Product code: 03501

Page 11 of 11

Abbreviations and acronyms

Flam. Liq: Flammable liquid

Skin Corr: Skin corrosion

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%

Relevant H and EUH statements (number and full text)

H226 Flammable liquid and vapour.

H314 Causes severe skin burns and eye damage.

EUH210 Safety data sheet available on request.

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.

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