

Precipitation BufferVersion
1.0

Date of first issue: 03/28/2022

SECTION 1. IDENTIFICATION

Product name : Precipitation Buffer

Manufacturer or supplier's detailsCompany : TAmiRNA GmbH
Leberstrasse 20
A-1110 Wien

Telephone : +43 (0) 1 391 3322 90

Responsible Department : TAmiRNA Technischer Service
Tel.: +43 (0) 1 391 3322 90E-mail : support@tamirna.com
addressResponsible/issuing
personEmergency telephone : Gesundheit Österreich GmbH, 24h
+43 (0) 1 406 43 43**Recommended use of the chemical and restrictions on use**

Recommended use : Laboratory chemicals

SECTION 2. HAZARDS IDENTIFICATION**GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)**

Acute toxicity (Oral) : Category 4

Skin corrosion : Category 1B

Serious eye damage : Category 1

GHS label elements

Hazard pictograms :



Signal Word : Danger

Hazard Statements : H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.Precautionary Statements : **Prevention:**

Precipitation Buffer

Version
1.0

Date of first issue: 03/28/2022

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.

P363 Wash contaminated clothing before reuse.

Disposal:

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

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)
zinc chloride	7646-85-7	$\geq 20 - < 30$
acetic acid	64-19-7	$\geq 1 - < 10$

Actual concentration is withheld as a trade secret

SECTION 4. FIRST AID MEASURES

General advice : Move out of dangerous area.
Show this material safety data sheet to the doctor in attendance.

If inhaled : If unconscious, place in recovery position and seek medical advice.
If symptoms persist, call a physician.

In case of skin contact : Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.
Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty.

In case of eye contact : Small amounts splashed into eyes can cause irreversible tissue damage and blindness.
In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Remove contact lenses.
Protect unharmed eye.

If swallowed : If accidentally swallowed obtain immediate medical attention.
Rinse mouth with water.
Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed : Harmful if swallowed.
Causes serious eye damage.
May cause respiratory irritation.
Causes severe burns.
No information available.

Precipitation Buffer

Version
1.0

Date of first issue: 03/28/2022

Notes to physician : No information available.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media : Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Specific hazards during fire fighting : Do not allow run-off from fire fighting to enter drains or water courses.
Exposure to decomposition products may be a hazard to health.

Hazardous combustion products : Hydrogen chloride gas
Metal oxides
Carbon oxides
Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke).

Further information : In the event of fire and/or explosion do not breathe fumes.

Special protective equipment for fire-fighters : Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.
Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.

Environmental precautions : Prevent product from entering drains.
Prevent further leakage or spillage if safe to do so.

Methods and materials for containment and cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion : Normal measures for preventive fire protection.

Advice on safe handling : Avoid formation of aerosol.
Do not breathe vapors/dust.
Avoid exposure - obtain special instructions before use.
Avoid contact with skin and eyes.
For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
Provide sufficient air exchange and/or exhaust in work rooms.
Dispose of rinse water in accordance with local and national regulations.

Conditions for safe storage : Keep container tightly closed in a dry and well-ventilated place.

Further information on storage stability : No decomposition if stored and applied as directed.

Precipitation Buffer

Version
1.0

Date of first issue: 03/28/2022

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
zinc chloride	7646-85-7	TWA (Fumes)	1 mg/m ³	ACGIH
		STEL (Fumes)	2 mg/m ³	ACGIH
		TWA (Fumes)	1 mg/m ³	NIOSH REL
		ST (Fumes)	2 mg/m ³	NIOSH REL
		TWA (Fumes)	1 mg/m ³	OSHA Z-1
		TWA (Fumes)	1 mg/m ³	OSHA P0
		STEL (Fumes)	2 mg/m ³	OSHA P0
acetic acid	64-19-7	TWA	10 ppm	ACGIH
		STEL	15 ppm	ACGIH
		TWA	10 ppm 25 mg/m ³	NIOSH REL
		ST	15 ppm 37 mg/m ³	NIOSH REL
		TWA	10 ppm 25 mg/m ³	OSHA Z-1
		TWA	10 ppm 25 mg/m ³	OSHA P0

Personal protective equipment

Respiratory protection	:	In the case of vapor formation use a respirator with an approved filter.
Hand protection	:	
Material	:	Protective gloves
Remarks	:	The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).
Eye protection	:	Tightly fitting safety goggles Wear face-shield and protective suit for abnormal processing problems. Do not wear contact lenses. Ensure that eyewash stations and safety showers are close to the workstation location.
Skin and body protection	:	Choose body protection according to the amount and concentration of the dangerous substance at the work place. acid-resistant protective clothing Footwear protecting against chemicals

Precipitation Buffer

Version
1.0

Date of first issue: 03/28/2022

Hygiene measures	:	Keep away from food and drink. Wash hands before breaks and at the end of workday. Ensure adequate ventilation, especially in confined areas. Avoid contact with the skin and the eyes. When using do not eat, drink or smoke.
------------------	---	--

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	liquid
Color	:	No data available
Odor	:	No data available
Odor Threshold	:	No data available
pH	:	No data available
Melting point/range	:	No data available
Boiling point/boiling range	:	No data available
Flash point	:	No data available
Evaporation rate	:	No data available
Burning rate	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapor pressure	:	No data available
Relative vapor density	:	No data available
Relative density	:	No data available
Density	:	No data available
Solubility(ies)		
Water solubility	:	No data available
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Autoignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available

Precipitation Buffer

Version
1.0

Date of first issue: 03/28/2022

Viscosity, kinematic	:	No data available
Explosive properties	:	No data available
Oxidizing properties	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No decomposition if stored and applied as directed.
Chemical stability	:	No decomposition if stored and applied as directed.
Possibility of hazardous reactions	:	Stable under recommended storage conditions. Hazardous decomposition products formed under fire conditions. Keep away from oxidizing agents, and acidic or alkaline products.
Conditions to avoid	:	No data available
Incompatible materials	:	No data available
Hazardous decomposition products	:	No decomposition if stored and applied as directed.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Harmful if swallowed.

Product:

Acute oral toxicity	:	Remarks: No data available
Acute inhalation toxicity	:	Remarks: No data available
Acute dermal toxicity	:	Remarks: No data available

Components:

zinc chloride:

Acute oral toxicity : LD50 Oral (Rat): 350 mg/kg

acetic acid:

Acute oral toxicity : LD50 Oral (Rat): 3,310 mg/kg

Acute dermal toxicity : LD50 Dermal (Rabbit): 1,112mg/kg

Skin corrosion/irritation

Causes severe burns.

Product:

Remarks : **Extremely corrosive and destructive to tissue.
Causes skin burns.**

Components:

zinc chloride:

Precipitation Buffer

Version
1.0

Date of first issue: 03/28/2022

Assessment	:	Causes burns.
Result	:	Causes burns.

Serious eye damage/eye irritation

Causes serious eye damage.

Product:

Remarks	:	May cause irreversible eye damage.
---------	---	------------------------------------

Components:

zinc chloride:

Result	:	Risk of serious damage to eyes.
Assessment	:	Risk of serious damage to eyes.

Respiratory or skin sensitization

Skin sensitization

Not classified based on available information.

Respiratory sensitization

Not classified based on available information.

Product:

Remarks	:	No data available
---------	---	-------------------

Components:

acetic acid:

Remarks	:	May cause sensitization by inhalation and skin contact.
---------	---	---

Germ cell mutagenicity

Not classified based on available information.

Components:

zinc chloride:

Genotoxicity in vitro	:	Test Type: Chromosome aberration test in vitro Result: positive
-----------------------	---	--

Carcinogenicity

Not classified based on available information.

IARC	No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
-------------	--

OSHA	No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.
-------------	--

NTP	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
------------	--

Precipitation Buffer

Version
1.0

Date of first issue: 03/28/2022

Reproductive toxicity

| Not classified based on available information.

STOT-single exposure

| May cause respiratory irritation.

Components:

zinc chloride:

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

STOT-repeated exposure

| Not classified based on available information.

Components:

zinc chloride:

Assessment : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Aspiration toxicity

| Not classified based on available information.

Further information

Product:

Remarks : No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish : Remarks: No data available

Toxicity to algae/aquatic plants : Remarks: No data available

Toxicity to microorganisms : Remarks: No data available

Components:

zinc chloride:

Toxicity to fish : LC50 (Danio rerio (zebra fish)): 38 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0.31 mg/l
Exposure time: 48 h

Toxicity to algae/aquatic plants : EC0 (Pseudokirchneriella subcapitata (microalgae)): 0.1 mg/l
Exposure time: 96 h

Precipitation Buffer

Version
1.0

Date of first issue: 03/28/2022

Toxicity to microorganisms : (Bacteria): 45 mg/l

acetic acid:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 1,000 mg/l
Exposure time: 96 h
Test Type: semi-static test

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 300.82 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

Persistence and degradability

No data available

Bioaccumulative potential

Product:

Bioaccumulation : Remarks: No data available

Mobility in soil

No data available

Other adverse effects

Product:

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82
Protection of Stratospheric Ozone - CAA Section 602 Class I
Substances
Remarks: This product neither contains, nor was
manufactured with a Class I or Class II ODS as defined by the
U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A +
B).

Additional ecological information : **An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.**
Very toxic to aquatic life with long lasting effects.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : The product should not be allowed to enter drains, water courses or the soil.
Send to a licensed waste management company.
Dispose of as hazardous waste in compliance with local and national regulations.

Contaminated packaging : Dispose of as unused product.
Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG

Precipitation Buffer

Date of first issue: 03/28/2022

Version
1.0

UN number : UN 1760
 Proper shipping name : CORROSIVE LIQUID, N.O.S.
 (Acetic acid, zinc chloride)
 Class : 8
 Packing group : II
 Labels : 8

IATA-DGR

UN/ID No. : UN 1760
 Proper shipping name : Corrosive liquid, n.o.s.
 (Acetic acid, zinc chloride)
 Class : 8
 Packing group : II
 Labels : Corrosive
 Packing instruction (cargo aircraft) : 855
 Packing instruction (passenger aircraft) : 851

IMDG-Code

UN number : UN 1760
 Proper shipping name : CORROSIVE LIQUID, N.O.S.
 (Acetic acid, zinc chloride)
 Class : 8
 Packing group : II
 Labels : 8
 EmS Code : F-A, S-B
 Marine pollutant : yes

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Domestic regulation

49 CFR

UN/ID/NA number : UN 1760
 Proper shipping name : Corrosive liquids, n.o.s.
 (Acetic acid, zinc chloride)
 Class : 8
 Packing group : II
 Labels : CORROSIVE
 ERG Code : 154
 Marine pollutant : yes(zinc chloride)

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

SECTION 15. REGULATORY INFORMATION

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
zinc chloride	7646-85-7	1000	3846

Precipitation Buffer

Version
1.0

Date of first issue: 03/28/2022

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TI Q.

SARA 311/312 Hazards : Acute toxicity (any route of exposure)
Skin corrosion or irritation
Serious eye damage or eye irritation

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:

zinc chloride	7646-85-7	>= 20 - < 30 %
---------------	-----------	----------------

Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCM I Intermediate or Final VOC's (40 CFR 60.489):

sodium acetate trihydrate	6131-90-4	>= 20 - < 30 %
acetic acid	64-19-7	>= 1 - < 5 %

Clean Water Act

The following Hazardous Substances are listed under the U.S. CleanWater Act, Section 311, Table 116.4A:

zinc chloride	7646-85-7	>= 20 - < 30 %
acetic acid	64-19-7	>= 1 - < 5 %

The following Hazardous Chemicals are listed under the U.S. CleanWater Act, Section 311, Table 117.3:

zinc chloride	7646-85-7	>= 20 - < 30 %
acetic acid	64-19-7	>= 1 - < 5 %

This product contains the following toxic pollutants listed under the U.S. Clean Water Act Section 307

zinc chloride	7646-85-7	>= 20 - < 30 %
---------------	-----------	----------------

This product does not contain any priority pollutants related to the U.S. Clean Water Act

Maine Chemicals of High Concern

This product does not contain any chemicals that are listed as Maine Chemicals of High Concern.

Maine Chemicals of High Concern

Product does not contain any listed chemicals

California List of Hazardous Substances

zinc chloride	7646-85-7
acetic acid	64-19-7

California Permissible Exposure Limits for Chemical Contaminants

zinc chloride	7646-85-7
acetic acid	64-19-7

Precipitation Buffer

Version
1.0

Date of first issue: 03/28/2022

TSCA list

| No substances are subject to a Significant New Use Rule.

| No substances are subject to TSCA 12(b) export notification requirements.

SECTION 16. OTHER INFORMATION

Full text of other abbreviations

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
NIOSH REL	:	USA. NIOSH Recommended Exposure Limits
OSHA P0	:	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
OSHA Z-1	:	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
ACGIH / TWA	:	8-hour, time-weighted average
ACGIH / STEL	:	Short-term exposure limit
NIOSH REL / TWA	:	Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek
NIOSH REL / ST	:	STEL - 15-minute TWA exposure that should not be exceeded at any time during a workday
OSHA P0 / TWA	:	8-hour time weighted average
OSHA P0 / STEL	:	Short-term exposure limit
OSHA Z-1 / TWA	:	8-hour time weighted average

AICS - Australian Inventory of Chemical Substances; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund

Precipitation Buffer

Version
1.0

Date of first issue: 03/28/2022

Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

SDS Number : 600000009286

Revision Date : 08/12/2021

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

US / Z8