Printing date 05/21/2019 Reviewed on 01/03/2018

1 Identification

· Product identifier

· Trade name: Total Acid/Base

Number Solvent (Tri-Solvent)

· Article number: SPE816

· Details of the supplier of the safety data sheet

· Manufacturer/Supplier: Aqua Solutions, Inc. 6913 Highway 225 DEER PARK, TX 77536 USA 800-256-2586

· Information department:

Technical Coordinator

Sherman Nelson sherman@aquasolutions.org

Technical Coordinator

Sherman Nelson sherman@aquasolutions.org

· Emergency telephone number:

Chemtrec: 800-424-9300 Canutec: 613-996-6666



2 Hazard(s) identification

· Classification of the substance or mixture



GHS02 Flame

Flam. Liq. 2 H225 Highly flammable liquid and vapor.



GHS08 Health hazard

Carc. 2 H351 Suspected of causing cancer.

Repr. 2 H361 Suspected of damaging fertility or the unborn child.

STOT RE 1 H372 Causes damage to organs through prolonged or repeated exposure.

Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2A H319 Causes serious eye irritation.

STOT SE 3 H336 May cause drowsiness or dizziness.

- · Label elements
- $\cdot \textit{GHS label elements} \ \textit{The product is classified and labeled according to the Globally Harmonized System (GHS)}.$

(Contd. on page 2)

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(Contd. of page 1)

· Hazard pictograms







GHS02

GHS07

· Signal word Danger

· Hazard-determining components of labeling:

Chloroform

Toluene

Isopropanol

· Hazard statements

Highly flammable liquid and vapor.

Harmful if swallowed.

Causes skin irritation.

Causes serious eye irritation.

Suspected of causing cancer.

Suspected of damaging fertility or the unborn child.

May cause drowsiness or dizziness.

Causes damage to organs through prolonged or repeated exposure.

May be fatal if swallowed and enters airways.

· Precautionary statements

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting/equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Do not breathe dust/fume/gas/mist/vapors/spray.

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

Use only outdoors or in a well-ventilated area.

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

If swallowed: Immediately call a poison center/doctor.

Specific treatment (see on this label).

Do NOT induce vomiting.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

IF exposed or concerned: Get medical advice/attention.

Get medical advice/attention if you feel unwell.

Rinse mouth.

Take off contaminated clothing and wash it before reuse.

If skin irritation occurs: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

In case of fire: Use for extinction: CO2, powder or water spray.

Store in a well-ventilated place. Keep container tightly closed.

Store in a well-ventilated place. Keep cool.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

(Contd. on page 3)

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(Contd. of page 2)

- · Classification system:
- · NFPA ratings (scale 0 4)



Health = 2 Fire = 3Reactivity = 0

· HMIS-ratings (scale 0 - 4)



- · Other hazards
- · Results of PBT and vPvB assessment
- · **PBT**: Not applicable. · **vPvB**: Not applicable.

3 Composition/information on ingredients

- · Chemical characterization: Mixtures
- · Description: Mixture of the substances listed below with nonhazardous additions.

· Dangerous con	ponents:	
CAS: 67-66-3	v	46.814%
CAS: 108-88-3	Toluene	27.395%
CAS: 67-63-0	Isopropanol	24.833%
· Table of Nonho	zardous Ingredients	
CAS: 7732-18-3	Water	0.959%

4 First-aid measures

- · Description of first aid measures
- · General information:

Immediately remove any clothing soiled by the product.

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

- · After inhalation: In case of unconsciousness place patient stably in side position for transportation.
- · After skin contact: Immediately wash with water and soap and rinse thoroughly.
- · After eye contact:

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

- · After swallowing: Immediately call a doctor.
- · Information for doctor:
- · Most important symptoms and effects, both acute and delayed No further relevant information available.
- · Indication of any immediate medical attention and special treatment needed No further relevant information available.

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Number Solvent (Tri-Solvent)

(Contd. of page 3)

5 Fire-fighting measures

- · Extinguishing media
- · Suitable extinguishing agents:

CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

· Special hazards arising from the substance or mixture

During heating or in case of fire poisonous gases are produced.

- · Advice for firefighters
- · **Protective equipment:** Mouth respiratory protective device.

6 Accidental release measures

· Personal precautions, protective equipment and emergency procedures

Mount respiratory protective device.

Wear protective equipment. Keep unprotected persons away.

· Environmental precautions:

Dilute with plenty of water.

Do not allow to enter sewers/ surface or ground water.

· Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

· Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

· Protective Action Criteria for Chemicals

· PAC-1:		
CAS: 67-66-3	Chloroform	2 ppm
CAS: 108-88-3	Toluene	67 ppm
CAS: 67-63-0	Isopropanol	400 ppm
· PAC-2:		
CAS: 67-66-3	Chloroform	64 ppm
CAS: 108-88-3	Toluene	560 ppm
CAS: 67-63-0	Isopropanol	2000* ppm
· PAC-3:		
CAS: 67-66-3	Chloroform	3,200 ppm
CAS: 108-88-3	Toluene	3700* ppm
CAS: 67-63-0	Isopropanol	12000** ppm

7 Handling and storage

- · Handling:
- · Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.

Open and handle receptacle with care.

Prevent formation of aerosols.

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· Information about protection against explosions and fires:

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

Keep respiratory protective device available.

- · Conditions for safe storage, including any incompatibilities
- · Requirements to be met by storerooms and receptacles: Store in a cool location.
- · Information about storage in one common storage facility: Not required.
- · Further information about storage conditions:

Keep receptacle tightly sealed.

Store in cool, dry conditions in well sealed receptacles.

· Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

- · Additional information about design of technical systems: No further data; see item 7.

· Cont	rol parameters
· Com	ponents with limit values that require monitoring at the workplace:
CAS	: 67-66-3 Chloroform
PEL	Ceiling limit value: 240 mg/m³, 50 ppm
REL	Short-term value: 9.78* mg/m³, 2* ppm *60-min; See Pocket Guide App. A
TLV	Long-term value: 49 mg/m³, 10 ppm
CAS	: 108-88-3 Toluene
PEL	Long-term value: 200 ppm Ceiling limit value: 300; 500* ppm *10-min peak per 8-hr shift
REL	Short-term value: 560 mg/m³, 150 ppm Long-term value: 375 mg/m³, 100 ppm
TLV	Long-term value: 75 mg/m³, 20 ppm BEI
CAS	67-63-0 Isopropanol
PEL	Long-term value: 980 mg/m³, 400 ppm
REL	Short-term value: 1225 mg/m³, 500 ppm Long-term value: 980 mg/m³, 400 ppm
TLV	Short-term value: 984 mg/m³, 400 ppm Long-term value: 492 mg/m³, 200 ppm BEI
	(Contd. on page 6)

(Contd. on page 6)

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· Ingredients with biological limit values:

CAS: 108-88-3 Toluene

BEI 0.02 mg/L

LD50 Intraperitoneal: blood

Time: prior to last shift of workweek

LD50: Toluene

 $0.03 \, mg/L$

LD50 Intraperitoneal: urine

Time: end of shift LD50: Toluene

0.3 mg/g creatinine

LD50 Intraperitoneal: urine

Time: end of shift

LD50: o-Cresol with hydrolysis (background)

CAS: 67-63-0 Isopropanol

BEI 40 mg/L

LD50 Intraperitoneal: urine

Time: end of shift at end of workweek LD50: Acetone (background, nonspecific)

- · Additional information: The lists that were valid during the creation were used as basis.
- · Exposure controls
- · Personal protective equipment:
- · General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Avoid contact with the eyes and skin.

· Breathing equipment:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

· Protection of hands:



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

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(Contd. of page 6)

· Eye protection:



Tightly sealed goggles

· Body protection: Protective work clothing

Information on basic physical and o	chemical properties
General Information	L. L.
Appearance:	
Form:	Liquid
Color:	Clear
Odor: Odor threshold:	Characteristic Not determined.
pH-value:	Not determined.
<u>-</u>	1101 determined.
Change in condition	77 1
Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	82 °C (179.6 °F)
Flash point:	4 °C (39.2 °F)
Flammability (solid, gaseous):	Not applicable.
Ignition temperature:	425 °C (797 °F)
Decomposition temperature:	Not determined.
Auto igniting:	Product is not selfigniting.
Danger of explosion:	Product is not explosive. However, formation of explosive air/vap mixtures are possible.
Explosion limits:	
Lower:	1.2 Vol %
Upper:	12 Vol %
Vapor pressure at 20 °C (68 °F):	210 hPa (157.5 mm Hg)
Density at 20 °C (68 °F):	1.04319 g/cm ³ (8.70542 lbs/gal)
Relative density	Not determined.
Vapor density	Not determined.
Evaporation rate	Not determined.
Solubility in / Miscibility with	
Water:	Fully miscible.
Partition coefficient (n-octanol/wate	er): Not determined.
Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
Solvent content:	
Organic solvents:	52.2 %

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		(Contd. of page 7
Water: VOC content:	1.0 % 52.23 % 544.8 g/l / 4.55 lb/gal	
Solids content:	0.0 %	
· Other information	No further relevant information available.	

10 Stability and reactivity

- · Reactivity No further relevant information available.
- · Chemical stability
- Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- · Possibility of hazardous reactions No dangerous reactions known.
- · Conditions to avoid No further relevant information available.
- · Incompatible materials: No further relevant information available.
- · Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicological information

- · Information on toxicological effects
- · Acute toxicity:

· LD/LC50	· LD/LC50 values that are relevant for classification:		
ATE (Acu	ATE (Acute Toxicity Estimate)		
Oral	LD50	1,009 mg/kg	
Inhalative	LC50/4h	121 mg/l (rat)	
CAS: 67-6	CAS: 67-66-3 Chloroform		

CAS: 67-66-3 Chloroform		
		500 mg/kg (ATE)
Inhalative	LC50/4h	3 mg/l (ATE)

- Primary irritant effect:
- · on the skin: Irritant to skin and mucous membranes.
- · on the eye: Irritating effect.
- · Sensitization: No sensitizing effects known.
- · Additional toxicological information:

The product shows the following dangers according to internally approved calculation methods for preparations: Harmful

Irritant

· Carcinogenic categories

CAS: 67-66-3 Chloroform

	· IARC (Internat	ional Agency for Research on Cancer)	
	CAS: 67-66-3	Chloroform	2B
	CAS: 108-88-3	Toluene	3
	CAS: 67-63-0	Isopropanol	3
Ī	· NTP (National	Toxicology Program)	

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· OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

12 Ecological information

- · Toxicity
- · Aquatic toxicity: No further relevant information available.
- · Persistence and degradability No further relevant information available.
- · Behavior in environmental systems:
- · Bioaccumulative potential No further relevant information available.
- · Mobility in soil No further relevant information available.
- Additional ecological information:
- · General notes:

Water hazard class 3 (Self-assessment): extremely hazardous for water

Do not allow product to reach ground water, water course or sewage system, even in small quantities.

Danger to drinking water if even extremely small quantities leak into the ground.

- · Results of PBT and vPvB assessment
- · **PBT**: Not applicable.
- · vPvB: Not applicable.
- · Other adverse effects No further relevant information available.

13 Disposal considerations

- · Waste treatment methods
- · Recommendation:

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

- · Uncleaned packagings:
- · Recommendation: Disposal must be made according to official regulations.
- · Recommended cleansing agent: Water, if necessary with cleansing agents.

14 Transport information

- · UN-Number
- · DOT, IMDG, IATA

UN1992

- · UN proper shipping name
- $\cdot DOT$

· IMDG, IATA

Flammable liquids, toxic, n.o.s. (Isopropanol, Toluene, Chloroform) FLAMMABLE LIQUID, TOXIC, N.O.S. (Isopropanol, TOLUENE,

CHLOROFORM)

- · Transport hazard class(es)
- $\cdot DOT$





· Class 6.1 Toxic substances

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(Contd. of page 9) · Label 3, 6.1 · IMDG · Class 6.1 Toxic substances · Label 3/6.1 \cdot IATA · Class 6.1 Toxic substances · Label 3 (6.1) · Packing group · DOT, IMDG, IATA II· Environmental hazards: · Marine pollutant: No · Special precautions for user Warning: Toxic substances · Danger code (Kemler): 60 F-E,S-D· EMS Number: · Segregation groups Liquid halogenated hydrocarbons · Stowage Category · Stowage Code SW2 Clear of living quarters. · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable. · Transport/Additional information: · Quantity limitations On passenger aircraft/rail: 5 L On cargo aircraft only: 60 L · IMDG · Limited quantities (LQ) 100 ml · Excepted quantities (EQ) Code: E4 Maximum net quantity per inner packaging: 1 ml Maximum net quantity per outer packaging: 500 ml · UN "Model Regulation": UN 1992 FLAMMABLE LIQUID, TOXIC, N.O.S. (ISOPROPANOL, TOLUENE, CHLOROFORM), 3 (6.1), II

US

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Safety, nealth ai Sara	nd environmental regulations/legislation specific for the substance or mixtur	e
Section 355 (extremely hazardous substances):		
CAS: 67-66-3 C	Chloroform	
Section 313 (Sp.	ecific toxic chemical listings):	
CAS: 67-66-3	Chloroform	
CAS: 108-88-3	Toluene	
CAS: 67-63-0	Isopropanol	
TSCA (Toxic Su	ubstances Control Act):	
Chloroform		ACTIV
Toluene		ACTIV
Isopropanol		ACTIV
Water		ACTIV
Hazardous Air I	Pollutants	·
CAS: 67-66-3	Chloroform	
CAS: 108-88-3	Toluene	
Proposition 65		
Chemicals know	on to cause cancer:	
CAS: 67-66-3	Chloroform	
Chemicals know	on to cause reproductive toxicity for females:	
None of the ingr	edients is listed.	
Chemicals know	on to cause reproductive toxicity for males:	
None of the ingr	edients is listed.	
Chemicals know	vn to cause developmental toxicity:	
CAS: 67-66-3	Chloroform	
CAS: 108-88-3	Toluene	
Carcinogenic ca	ntegaries	
	vental Protection Agency)	
*	Chloroform	B2, L, N
CAS: 108-88-3	·	II
TLV (Threshold	Limit Value established by ACGIH)	
127 (1777)	Chloroform	A
CAS: 67-66-3	·	A
CAS: 67-66-3 CAS: 108-88-3		
CAS: 108-88-3	Isopropanol	A

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· Hazard pictograms







GHS02

2 GHS07

7 GHS

· Signal word Danger

· Hazard-determining components of labeling:

Chloroform

Toluene

Isopropanol

· Hazard statements

Highly flammable liquid and vapor.

Harmful if swallowed.

Causes skin irritation.

Causes serious eye irritation.

Suspected of causing cancer.

Suspected of damaging fertility or the unborn child.

May cause drowsiness or dizziness.

Causes damage to organs through prolonged or repeated exposure.

May be fatal if swallowed and enters airways.

· Precautionary statements

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Ground/bond container and receiving equipment.

 $Use\ explosion-proof\ electrical/ventilating/lighting/equipment.$

Use only non-sparking tools.

Take precautionary measures against static discharge.

Do not breathe dust/fume/gas/mist/vapors/spray.

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

Use only outdoors or in a well-ventilated area.

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

If swallowed: Immediately call a poison center/doctor.

Specific treatment (see on this label).

Do NOT induce vomiting.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

IF exposed or concerned: Get medical advice/attention.

Get medical advice/attention if you feel unwell.

Rinse mouth.

Take off contaminated clothing and wash it before reuse.

If skin irritation occurs: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

In case of fire: Use for extinction: CO2, powder or water spray.

Store in a well-ventilated place. Keep container tightly closed.

Store in a well-ventilated place. Keep cool.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

(Contd. on page 13)

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· Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- · Department issuing SDS: Environment protection department.
- · Contact:
- · Date of preparation / last revision

Revision 0.1, 05-21-2019: added flammable icon. STN

Creation date for SDS 10-15-2015. STN

05/21/2019 / -

· Abbreviations and acronyms:

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

TVFTA. National Fire Froiection Association (USA)

 ${\it HMIS: Hazardous\ Materials\ Identification\ System\ (USA)}$

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

BEI: Biological Exposure Limit

 $Flam.\ Liq.\ 2: Flammable\ liquids-Category\ 2$

Acute Tox. 4: Acute toxicity - Category 4

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

Carc. 2: Carcinogenicity – Category 2

Repr. 2: Reproductive toxicity – Category 2

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1

Asp. Tox. 1: Aspiration hazard – Category 1

US -