SECTION 1. IDENTIFICATION

Product name	:	GLB TLC
Product code	:	000000024480

Manufacturer or supplier's details

Company	:	Arch Chemicals, Inc. 1200 Bluegrass Lakes Parkway Alpharetta, GA 30004 United States of America (USA)
E-mail address	:	sds@lonza.com
Emergency telephone number	:	In case of emergency call CHEMTREC US: 1-800-424-9300, CHEMTREC WORLD-WIDE: +1-703-527-3887.

Recommended use of the chemical and restrictions on use

Recommended use	:	Water treatment chemical

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Corrosive to metals	:	Category 1
Acute toxicity (Inhalation)	:	Category 4
Skin corrosion	:	Category 1A
Serious eye damage	:	Category 1
Specific target organ toxicity - single exposure	:	Category 3 (Respiratory system)

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : H290 May be corrosive to metals.
H314 Causes severe skin burns and eye damage.
H318 Causes serious eye damage.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.

Precautionary statements : **Prevention:**
P234 Keep only in original container.
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P264 Wash skin thoroughly after handling.

P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.
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.
P312 Call a POISON CENTER/doctor if you feel unwell.
P363 Wash contaminated clothing before reuse.
P390 Absorb spillage to prevent material damage.
Storage:
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
P406 Store in corrosive resistant stainless steel container with a resistant inner liner.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous components

Chemical name	CAS-No.	Concentration (%)
Sulphuric acid	7664-93-9	13.95
Hydrochloric acid (in water)	7647-01-0	7.56
Orthophosphoric acid	7664-38-2	8.33
Triton X-100	9002-93-1	2.02

SECTION 4. FIRST AID MEASURES

If inhaled : IF INHALED: Remove individual to fresh air. Seek medical attention if breathing becomes difficult or if respiratory irritation develops. If not breathing, give artificial respiration. Call for medical assistance.

In case of skin contact : IF ON SKIN: Immediately flush skin with plenty of water for 15 minutes. If clothing comes in contact with the product, the clothing should be removed immediately and laundered before re-use. Seek medical attention if irritation develops.

In case of eye contact : IF IN EYES: Immediately flush eyes with plenty of water for at least 15 minutes. Seek medical attention immediately.

If swallowed	:	IF SWALLOWED: Call a physician immediately. DO NOT induce vomiting unless directed to do so by a physician. Never give anything by mouth to an unconscious person.
Notes to physician	:	Probable mucosal damage may contraindicate the use of gastric lavage.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Specific hazards during firefighting	:	Material will not ignite or burn. Reacts with most metals to form flammable hydrogen gas.
Further information	:	In case of fire, use normal fire-fighting equipment and the personal protective equipment recommended in Section 8 to include a NIOSH approved self-contained breathing apparatus. Use water spray to cool unopened containers.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Additional protective clothing must be worn to prevent personal contact with this material. Those items include but are not limited to boots, impervious gloves, hard hat, splash-proof goggles, impervious clothing, i.e., chemically impermeable suit, self-contained breathing apparatus.
Environmental precautions		
Air	:	Keep people away from and upwind of spill/leak.
Soil	:	Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13). Do not contaminate ponds, waterways or ditches with chemical or used container.
Water	:	If the product contaminates rivers and lakes or drains inform respective authorities. soluble

SECTION 7. HANDLING AND STORAGE

Advice on safe handling	:	Do not take internally. Avoid contact with skin, eyes and clothing. If in eyes or on skin, rinse well with water. Avoid breathing vapours, mist or gas.
Conditions for safe storage	:	Store in a cool, dry and well ventilated place. Isolate from incompatible materials. Do not freeze.

Materials to avoid : Refer to Section 10, "Incompatible Materials."

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Sulphuric acid	7664-93-9	(Thoracic fraction.)		ACGIH
		TWA (Thoracic fraction.)	0.2 mg/m3	ACGIH
		REL	1 mg/m3	NIOSH/GUIDE
		PEL	1 mg/m3	OSHA_TRANS
		TWA	1 mg/m3	Z1A
		TWA (Thoracic fraction.)	0.2 mg/m3	CAD ON OEL
Hydrochloric acid (in water)	7647-01-0		2 ppm	ACGIH
		Ceil_Time	5 ppm 7 mg/m3	NIOSH/GUIDE
			5 ppm 7 mg/m3	OSHA_TRANS
			5 ppm 7 mg/m3	Z1A
		TLV-C	2 ppm	CAD ON OEL
Orthophosphoric acid	7664-38-2	TWA	1 mg/m3	ACGIH
		STEL	3 mg/m3	ACGIH
		REL	1 mg/m3	NIOSH/GUIDE
		STEL	3 mg/m3	NIOSH/GUIDE
		PEL	1 mg/m3	OSHA_TRANS
		TWA	1 mg/m3	Z1A
		STEL	3 mg/m3	Z1A
		TWA	1 mg/m3	CAD ON OEL
		STEL	3 mg/m3	CAD ON OEL
Sulphuric acid	7664-93-9	(Thoracic fraction.)		ACGIH
		TWA (Thoracic fraction.)	0.2 mg/m3	ACGIH
		REL	1 mg/m3	NIOSH/GUIDE
		PEL	1 mg/m3	OSHA_TRANS
		TWA	1 mg/m3	Z1A
		TWA (Thoracic fraction.)	0.2 mg/m3	CAD ON OEL
Orthophosphoric acid	7664-38-2	TWA	1 mg/m3	ACGIH
		STEL	3 mg/m3	ACGIH
		REL	1 mg/m3	NIOSH/GUIDE
		STEL	3 mg/m3	NIOSH/GUIDE
		PEL	1 mg/m3	OSHA_TRANS

		TWA	1 mg/m3	Z1A
		STEL	3 mg/m3	Z1A
		TWA	1 mg/m3	CAD ON OEL
		STEL	3 mg/m3	CAD ON OEL
Hydrochloric acid (in water)	7647-01-0		2 ppm	ACGIH
		Ceil_Time	5 ppm 7 mg/m3	NIOSH/GUIDE
			5 ppm 7 mg/m3	OSHA_TRANS
			5 ppm 7 mg/m3	Z1A
		TLV-C	2 ppm	CAD ON OEL

Appropriate engineering controls

Engineering measures : Local exhaust ventilation or other engineering controls are normally required when handling or using this product to keep airborne exposures below the TLV, PEL or other recommended exposure limit.

Personal protective equipment

Respiratory protection : Wear a NIOSH approved respirator if levels above the exposure limits are possible.
A NIOSH approved full-face air purifying respirator with acid gas cartridge and N-95 filter. Air purifying respirators should not be used in oxygen deficient or IDLH atmospheres or if exposure concentrations exceed ten (10) times the published limit.

Hand protection

Remarks : Avoid contact with skin. Impervious gloves Boots Apron A full impervious suit is recommended if exposure is possible to a large portion of the body.

Eye protection : Chemical resistant goggles must be worn.
Face-shield

Skin and body protection : Neoprene
butyl-rubber
Natural Rubber

Protective measures : Ensure that eyewash stations and safety showers are close to the workstation location.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

Colour : amber

Odour : mild

Odour Threshold : no data available

pH : 0.0 - 2.0

Melting point/freezing point	:	no data available
Boiling point/boiling range	:	100 °C
Flash point	:	no data available
Evaporation rate	:	no data available
Flammability (solid, gas)	:	Product is not known to be flammable, combustible, pyrophoric or explosive.
Upper explosion limit	:	no data available
Lower explosion limit	:	no data available
Vapour pressure	:	no data available
Relative vapour density	:	> 1
Relative density	:	1.1 - 1.2 (20 °C)
Density	:	no data available
Bulk density	:	no data available
Solubility(ies) Water solubility	:	soluble in cold water
Partition coefficient: n-octanol/water	:	no data available
Auto-ignition temperature	:	no data available
Decomposition temperature	:	no data available
Viscosity Viscosity, dynamic	:	no data available
Viscosity, kinematic	:	no data available

SECTION 10. STABILITY AND REACTIVITY

Possibility of hazardous reactions	:	Stable under normal conditions.
Conditions to avoid	:	Heat, flames and sparks.
Incompatible materials	:	Strong oxidizing agents Bases Amines Metals Alkalis
Hazardous decomposition prod-	:	Hydrogen chloride

ucts

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure : Eyes
Skin
IngestionInhalation

Acute toxicity

Acute oral toxicity (LD50) : Believed to be approximately 4,800 mg/kg
Species: Rat

Acute inhalation toxicity : Remarks: no data available

Acute dermal toxicity (LD50) : Believed to be > 2,000 mg/kg
Species: Rabbit

Acute toxicity : Remarks: This product is corrosive to all tissues contacted and upon inhalation, may cause irritation to mucous membranes and respiratory tract.

Skin corrosion/irritation

Skin irritation : Remarks: Corrosive to skin

Serious eye damage/eye irritation

Eye irritation : Remarks: Corrosive to eyes

Respiratory or skin sensitisation

Sensitisation : Remarks: This material is not known or reported to be a skin or respiratory sensitizer.

Carcinogenicity

IARC	Group 1: Carcinogenic to humans	
	Sulphuric acid	7664-93-9
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 component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.	
ACGIH	Suspected human carcinogen	
	Sulphuric acid	7664-93-9

Repeated dose toxicity

: Remarks: There are no known or reported effects from repeated exposure except those secondary to burns.

Further information
Remarks: no data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

no data available

Persistence and degradability

no data available

Bioaccumulative potential

Components:

Sulphuric acid

Partition coefficient: n-octanol/water	:	Remarks: Not applicable

Triton X-100

Partition coefficient: n-octanol/water	:	log Pow: 2.7

Mobility in soil

no data available

Other adverse effects

Ozone-Depletion Potential	:	Regulation: US. EPA Clean Air Act (CAA) Section 602 Ozone-Depleting Substances (40 CFR 82, Subpt. A, App A & B) 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	:	Because of the low pH of this product, it would be expected to produce significant ecotoxicity upon exposure to aquatic organisms and aquatic systems. No data for product. Individual constituents are as follows:

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues	:	If this product becomes a waste, it meets the criteria of a hazardous waste as defined under 40 CFR 261 and would have the following EPA hazardous waste number: D002. As a hazardous liquid waste it must be disposed of in accordance with local, state and federal regulations.
Contaminated packaging	:	Empty containers retain hazardous residue, dispose of accordingly.

SECTION 14. TRANSPORT INFORMATION

IATA

UN number	:	3264
Proper shipping name	:	Corrosive liquid, acidic, inorganic, n.o.s. (Sulphuric acid, hydrochloric acid)
Transport hazard class	:	8
Packing group	:	II
Labels	:	8
Environmental hazards	:	no

IMDG

UN number	:	3264
Proper shipping name	:	Corrosive liquid, acidic, inorganic, n.o.s. (Sulphuric acid, hydrochloric acid)
Transport hazard class	:	8
Packing group	:	II
Labels	:	8
EmS Number 1	:	F-A
EmS Number 2	:	S-B
Environmental hazards	:	Marine pollutant: no

ADR

UN number	:	3264
Proper shipping name	:	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Sulphuric acid, hydrochloric acid)
Transport hazard class	:	8
Packing group	:	II
Classification Code	:	C1
Hazard Identification Number	:	80
Labels	:	8
Environmental hazards	:	no

RID

UN number	:	3264
Proper shipping name	:	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Sulphuric acid, hydrochloric acid)
Transport hazard class	:	8
Packing group	:	II
Classification Code	:	C1
Hazard Identification Number	:	80
Labels	:	8
Environmental hazards	:	no

DOT

UN number	:	3264
Proper shipping name	:	Corrosive liquid, acidic, inorganic, n.o.s. (Sulphuric acid, hydrochloric acid)
Transport hazard class	:	8
Packing group	:	II
Labels	:	8
Emergency Response Guidebook Number	:	154
Environmental hazards	:	no

TDG

UN number	:	3264
Proper shipping name	:	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Sulphuric acid, hydrochloric acid)
Transport hazard class	:	8
Packing group	:	II
Labels	:	8
Environmental hazards	:	no

Special precautions for user	:	none
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	:	Not applicable

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Sulphuric acid	7664-93-9	1000	*

*: Calculated RQ exceeds reasonably attainable upper limit.

SARA 304 Extremely Hazardous Substances Reportable Quantity

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

SARA 311/312 Hazards

See above: SECTION 2. Hazard Identification-GHS Classification

SARA 302

The following components are subject to reporting levels established by SARA Title III, Section 302:

Components	CAS-No.	Concentration
Sulphuric acid	7664-93-9	
Hydrochloric acid (in water)	7647-01-0	

SARA 313

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

Components	CAS-No.	Concentration
Sulphuric acid	7664-93-9	
Hydrochloric acid (in water)	7647-01-0	

Clean Air Act

The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 12 (40 CFR 61):

Components	CAS-No.	Concentration
Hydrochloric acid (in water)	7647-01-0	

The following chemical(s) are listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F):

Components	CAS-No.	Concentration
Sulphuric acid	7664-93-9	
Hydrochloric acid (in water)	7647-01-0	

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489).

Clean Water Act

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

Components	CAS-No.	Component RQ (lbs)
Sulphuric acid	7664-93-9	1000
Hydrochloric acid (in water)	7647-01-0	5000
Orthophosphoric acid	7664-38-2	5000

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

Components	CAS-No.	Concentration
Sulphuric acid	7664-93-9	
Hydrochloric acid (in water)	7647-01-0	
Orthophosphoric acid	7664-38-2	

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

US State Regulations

Massachusetts Right To Know

Components	CAS-No.
Sulphuric acid	7664-93-9
Orthophosphoric acid	7664-38-2

Hydrochloric acid (in water)	7647-01-0

Pennsylvania Right To Know

Components	CAS-No.
Sulphuric acid	7664-93-9
Orthophosphoric acid	7664-38-2
Hydrochloric acid (in water)	7647-01-0

New Jersey Right To Know

Components	CAS-No.
Sulphuric acid	7664-93-9
Orthophosphoric acid	7664-38-2
Hydrochloric acid (in water)	7647-01-0
Triton X-100	9002-93-1

California Prop. 65

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

SECTION 16. OTHER INFORMATION

First formulated version in SAP.
Arch is a wholly-owned subsidiary of Lonza and continues to operate as Arch Chemicals, Inc.
Revision Date : 2018.01.12

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.