AR-20 Accelerator Solution

SECTION 1. IDENTIFICATION

Product Identifier	AR-20 Accelerator Solution
Other Means of Identification	none
Product Family	Organic and Inorganic Acid Mixture
Recommended Use	Additive to accelerate the cure of Stebbins AR-20-QC Liquid.
Restrictions on Use	None known.
Manufacturer/Supplier Identifier	The Stebbins Engineering and Manufacturing Company, 363 Eastern Boulevard, Watertown, NY, 13601, (315) 782-3000, www.stebbinseng.com
Emergency Phone No.	Chemtrec - Within North America, 1-800-424-9300, 24 hours
	Stebbins 24 Hour Contact-, 1-315-788-6624
SDS No.	069

SECTION 2. HAZARD IDENTIFICATION

Classification

Acute toxicity (Oral) - Category 3; Acute toxicity (Dermal) - Category 5; Acute toxicity (Inhalation) - Category 3; Skin corrosion - Category 1B; Serious eye damage - Category 1

Label Elements

Signal Word:
Danger

Hazard Statement(s):
H301 Toxic if swallowed.
H313 May be harmful in contact with skin.
H314 Causes severe skin burns and eye damage.
H331 Toxic if inhaled.

Precautionary Statement(s):
P260 Do not breathe dusts or mists.
P261 Avoid breathing mist, spray, vapours.
P264 Wash hands and skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTRE or doctor.
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 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312 Call a POISON CENTRE or doctor if you feel unwell.
P363 Wash contaminated clothing before reuse.
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P501 Dispose of contents and container in accordance with local, regional, national and international regulations.

Other Hazards

Water-reactive.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture:

Chemical Name	CAS No.	%	Other Identifiers	Other Names
Hydrochloric acid	7647-01-0	60 - 70%	N/A	None
Triethyl phosphate	78-40-0	20 - 30%	N/A	None
Phosphoric acid solutions	7664-38-2	10 - 20%	N/A	None

Notes

**This ingredient is a component of the complex mixture.

Concentrations are expressed in % weight/weight.

The specific chemical identity and/or exact percentage (concentration) of composition may be withheld as a trade secret.

SECTION 4. FIRST-AID MEASURES

First-aid Measures

Inhalation

Move to fresh air. Keep at rest in a position comfortable for breathing. If breathing is difficult, trained personnel should administer emergency oxygen if advised to do so by Poison Centre or doctor. If breathing has stopped, trained personnel should begin rescue breathing. Call a Poison Centre or doctor.

Skin Contact

Avoid direct contact. Wear chemical protective clothing if necessary. Immediately wash gently and thoroughly with lukewarm, gently flowing water and mild soap for 15-20 minutes. If skin irritation occurs, get medical advice or attention. Take off contaminated clothing, shoes and leather goods (e.g. watchbands, belts). Thoroughly clean clothing, shoes and leather goods before reuse or dispose of safely.

Eye Contact

Avoid direct contact. Wear chemical protective gloves if necessary. Immediately rinse the contaminated eye(s) with lukewarm, gently flowing water for 15-20 minutes, while holding the eyelid(s) open. Immediately call a Poison Centre or doctor.

Ingestion

Rinse mouth with water. If vomiting occurs naturally, lie on your side in the recovery position. Rinse mouth with water again. Never give anything by mouth if person is rapidly losing consciousness, or is unconscious or convulsing. Do not induce vomiting. Immediately call a Poison Centre or doctor.

Most Important Symptoms and Effects, Acute and Delayed

If on skin: causes moderate to severe irritation. May burn the skin. Permanent scarring may result. If in eyes: causes moderate to severe irritation. May cause serious eye damage. May irritate or burn the eyes. Permanent damage including blindness may result. If inhaled: can cause severe irritation of the nose and throat. At high concentrations can cause lung injury.

Immediate Medical Attention and Special Treatment

Target Organs

Skin, eyes, lungs.

Medical Conditions Aggravated by Exposure

Skin conditions, eye conditions, respiratory conditions.

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media

Not combustible. Use extinguishing agent suitable for surrounding fire.

Specific Hazards Arising from the Product

Contact with water causes violent frothing and spattering.
In a fire, the following hazardous materials may be generated: corrosive chlorine; flammable hydrogen; corrosive hydrogen chloride.

Special Protective Equipment and Precautions for Fire-fighters

Knock down vapours or gases with water fog or fine water spray. Dike and recover contaminated water for appropriate disposal. Before entry, especially into confined areas, use an appropriate monitor to check for: toxic gases or vapours. Fire-fighters may enter the area if positive pressure SCBA and full Bunker Gear is worn.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures

Do not touch damaged containers or spilled product unless wearing appropriate protective equipment. Remove or isolate incompatible materials as well as other hazardous materials.

Environmental Precautions

Do not allow into any sewer, on the ground or into any waterway. Minimize the use of water to prevent environmental contamination.

Methods and Materials for Containment and Cleaning Up

Review Section 7 (Handling) of this safety data sheet before proceeding with clean-up. Contain and soak up spill with absorbent that does not react with spilled product. Place used absorbent into suitable, covered, labelled containers for disposal. Do not get water inside container or on spilled product. Dike and recover contaminated water for appropriate disposal. Store recovered product in suitable containers that are: corrosion-resistant, tightly-covered.

SECTION 7. HANDLING AND STORAGE

Precautions for Safe Handling

Avoid breathing in this product. Do not get in eyes, on skin or on clothing. Do not swallow. Avoid release to the environment. Do NOT eat, drink or store food in work areas. Wash hands thoroughly after handling this product and before eating, using the washroom or leaving work area.

Conditions for Safe Storage

Store in an area that is: cool, ventilated. Store in the original, labelled, shipping container. Vent drums to prevent pressure buildup. Do not handle swollen drums. Get expert advice. Empty containers may contain hazardous residue. Store separately. Keep closed. Follow all precautions given on this safety data sheet. Comply with all applicable health and safety regulations, fire and building codes.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

	ACGIH TLV®		OSHA PEL		AIHA WEEL	
Chemical Name	**TWA**	**STEL**	**TWA**	**Ceiling**	**8-hr TWA**	**TWA**
Phosphoric acid solutions	1 mg/m3	3 mg/m3	1 mg/m3	3 mg/m3		

Hydrochloric Acid:
OSHA TWA: Not established
ACGIH Ceiling Exposure Limit (TLV-C): 2 ppm

Phosphoric Acid:
OSHA PEL-TWA: 1 mg/m³
OSHA PEL-STEL: 3 mg/m³
ACGIH TLV-TWA: 1 mg/m³
ACGIH TLV-STEL: 3 mg/m³
Consult local authorities for provincial or state exposure limits. ACGIH® = American Conference of Governmental Industrial Hygienists. TLV® = Threshold Limit Value. TWA = Time-Weighted Average. STEL = Short-term Exposure Limit. OSHA = US Occupational Safety and Health Administration.

Appropriate Engineering Controls

Use local exhaust ventilation, if general ventilation is not adequate to control amount in the air. In a confined space: use local exhaust ventilation and enclosure, if necessary, to control amount in the air. Provide eyewash and safety shower if contact or splash hazard exists.

Individual Protection Measures

Eye/Face Protection

Wear approved safety glasses.

Skin Protection

Wear chemical protective clothing e.g. gloves, aprons, boots.

Respiratory Protection

Wear a NIOSH approved air-purifying respirator with an organic vapour cartridge.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Basic Physical and Chemical Properties

Appearance	Light yellow liquid. Particle Size: Not applicable
Odour	Acidic
Odour Threshold	Not available
pH	~ 1.1
Melting Point/Freezing Point	Not available (melting); Not available (freezing)
Boiling Range	Not available
Flash Point	Not available
Evaporation Rate	Not available
Flammability (solid, gas)	Not applicable (liquid).
Upper/Lower Flammability or Explosive Limit	Not applicable (upper); Not applicable (lower)
Vapour Pressure	Not available
Vapour Density (air = 1)	Not available
Relative Density (water = 1)	~ 1.1
Solubility	Soluble in water; Not available (in other liquids)
Partition Coefficient, n-Octanol/Water (Log Kow)	Not available
Auto-ignition Temperature	Not available
Decomposition Temperature	Not available

Viscosity	Not available (kinematic); Not available (dynamic)

Other Information

Physical State	Liquid
Molecular Formula	Not available
Molecular Weight	Not available
Bulk Density	~ 68.6 lb/ft3 (1100.0 kg/m3)
Surface Tension	Not available
Critical Temperature	Not available
Electrical Conductivity	Not available
Vapour Pressure at 50 deg C	Not available
Saturated Vapour Concentration	Not available

SECTION 10. STABILITY AND REACTIVITY

Reactivity

Not reactive under normal conditions of use.

Chemical Stability

Normally stable.

Possibility of Hazardous Reactions

Reacts in the presence of water, alkaline conditions (high pH).

Conditions to Avoid

Water, moisture or humidity. Alkaline conditions (high pH).

Incompatible Materials

Releases excessive heat on contact with: water, strong bases (e.g. sodium hydroxide). Forms flammable chemicals on contact with: metals (e.g. aluminum).

Hazardous Decomposition Products

Irritating chemicals.

SECTION 11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure

Skin contact; eye contact; ingestion.

Acute Toxicity

Chemical Name	LC50	LD50 (oral)	LD50 (dermal)
Phosphoric acid solutions	213 mg/m3 (rat) (4-hour exposure)	3500 mg/kg (rat)	1260 mg/kg (rabbit)
Triethyl phosphate	> 8817 mg/m3 (rat) (4-hour exposure)	1600 mg/kg (rabbit)	> 2000 mg/kg (rabbit)

LC50 (Inhalation)

Hydrochloric Acid:
LC50: male rat: 1562 ppm, 4 hours
LC50: female mouse: 554 ppm, 4 hours
LC50: male guinea pig: 475 ppm, 4 hours
LC50: male mouse: 400 mg/m^3, 4 hours

Triethyl phosphate:
LC50: rat: >8817 mg/m^3, 4 hours

Phosphoric acid:

LC50: rat: >213 mg/m³, 4 hours

LD50 (Oral)

Hydrochloric acid:
LD50, oral: female rat: 238-277 mg/kg

Triethyl phosphate:
LD50, oral: rat: 1.6 g/kg
LD50, oral: rabbit: 1.6 g/kg
LD50, oral: mouse: >1.5 g/kg

Phosphoric acid:
LD50, oral: rat: 1250 mg/kg

LD50 (Dermal)

Hydrochloric acid:
LD50, dermal: rabbit: >5010 mg/kg

Triethyl phosphate:
LD50, dermal: guinea pig: >21.4 g/kg
LD50, dermal: rabbit: >20 g/kg

Phosphoric acid:
LD50, dermal: rabbit: > 1260 mg/kg

Skin Corrosion/Irritation

Animal tests show skin corrosion. Contact can cause pain, redness, burns, and blistering. Permanent scarring can result.

Serious Eye Damage/Irritation

Contact causes severe burns with redness, swelling, pain and blurred vision. Permanent damage including blindness can result.

STOT (Specific Target Organ Toxicity) - Single Exposure

Inhalation

Harmful May cause nose and throat irritation, lung injury.

Skin Absorption

Symptoms may include redness, rash, swelling and itching.

Ingestion

Causes severe irritation or burns to the mouth, throat and stomach. Permanent damage can result. Toxic, can cause death.

Aspiration Hazard

May be drawn into the lungs (aspirated) if swallowed or vomited. Death can result.

STOT (Specific Target Organ Toxicity) - Repeated Exposure

Harmful. Causes severe effects (serious permanent impairment or life-threatening) Causes irritation of the respiratory system. May cause respiratory tract injury.

Respiratory and/or Skin Sensitization

Not known to be a respiratory sensitizer. Not known to be a skin sensitizer.

Carcinogenicity

(Hydrochloric acid) IARC: Group 3 – Not classifiable as to its carcinogenicity to humans. ACGIH®: A4 – Not classifiable as a human carcinogen. If inhaled: IARC: Group 1 – Carcinogenic to humans.
(Phosphoric acid solutions) If inhaled: IARC: Group 1 – Carcinogenic to humans.

Key to Abbreviations

ACGIH® = American Conference of Governmental Industrial Hygienists. IARC = International Agency for Research on Cancer.

Reproductive Toxicity

Development of Offspring

Not known to harm the unborn child.

Sexual Function and Fertility

Not known to cause effects on sexual function or fertility.

Effects on or via Lactation

Not known to cause effects on or via lactation.

Germ Cell Mutagenicity

Not known to be a mutagen.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Toxic to aquatic life, can cause sharp decrease in pH value in aquatic environments.

Acute Aquatic Toxicity

Chemical Name	LC50 Fish	EC50 Crustacea	ErC50 Aquatic Plants	ErC50 Algae
Phosphoric acid solutions	3.5pH-3.0pH (Lepomis macrochirus (bluegill); 96-hour; static)			
Triethyl phosphate	> 100 mg/L (Pimephales promelas (fathead minnow); 96-hour)	350 mg/L (Daphnia magna (water flea); 48-hour)		

Chronic Aquatic Toxicity

Chemical Name	NOEC Fish	EC50 Fish	NOEC Crustacea	EC50 Crustacea
Triethyl phosphate				729 mg/L (21-day)

Persistence and Degradability

Dissociates readily in water, lowering pH.

Bioaccumulative Potential

This product and its degradation products are not known to bioaccumulate.

Mobility in Soil

If released into the environment, this product does not move through the soil.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal Methods

Contact local environmental authorities for approved disposal or recycling methods in your jurisdiction. This product and its container must be disposed of as hazardous waste. Do NOT dump into any sewers, on the ground or into any body of water. Empty containers retain product residue. Follow label warnings even if container appears to be empty. Store product for disposal as described under Storage in Section 7 of this safety data sheet.

SECTION 14. TRANSPORT INFORMATION

Regulation	UN No.	Proper Shipping Name	Transport Hazard Class(es)	Packing Group
US DOT	UN1760	Corrosive liquid, n.o.s. (organic acid, inorganic acid)	8	II
IATA (Air)	UN1760	Corrosive liquid, n.o.s. (organic acid, inorganic acid)	8	II
IMO (Marine)	UN1760	Corrosive liquid, n.o.s. (organic acid, inorganic acid)	8	II

Canadian TDG	UN1760	Corrosive liquid, n.o.s. (organic acid, inorganic acid)	8	II

Special Precautions Not applicable

Transport in Bulk according to International Maritime Organization Instruments

Not applicable

Emergency Response Guide No. 154

SECTION 15. REGULATORY INFORMATION

Safety, Health and Environmental Regulations

Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the SDS contains all of the information required by the Controlled Products Regulations.

Domestic Substances List (DSL) / Non-Domestic Substances List (NDSL)

All ingredients are listed on the DSL/NDSL.

CEPA - National Pollutant Release Inventory (NPRI)

Part 1A. (Hydrochloric acid)

USA

Toxic Substances Control Act (TSCA) Section 8(b)

All ingredients are listed on the TSCA Inventory.

SECTION 16. OTHER INFORMATION

NFPA Rating	**Health - 2 Flammability - 0 Instability - 1**
SDS Prepared By	B.E.R
Phone No.	(315) 782-3000
Date of Preparation	October 13, 2015
Date of Last Revision	June 30, 2023
Revision Indicators	Revision 4 Updated C.A.S.# Other Related Literature; reviewed and approved
Key to Abbreviations	ACGIH® = American Conference of Governmental Industrial Hygienists AIHA® = AIHA® Guideline Foundation IARC = International Agency for Research on Cancer NFPA = National Fire Protection Association NIOSH = National Institute for Occupational Safety and Health NTP = National Toxicology Program OSHA = US Occupational Safety and Health Administration
References	CHEMINFO database. Canadian Centre for Occupational Health and Safety (CCOHS). HSDB® database. US National Library of Medicine. Available from Canadian Centre for Occupational Health and Safety (CCOHS). NIOSH Pocket Guide database. National Institute for Occupational Safety and Health. Available from Canadian Centre for Occupational Health and Safety (CCOHS). Registry of Toxic Effects of Chemical Substances (RTECS®) database. Dassault Systèmes/BIOVIA (“BIOVIA”). Available from Canadian Centre for Occupational Health and Safety (CCOHS).
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