SAFETY DATA SHEET

Version 3

1. Identification of the Substance / Preparation and of the Company / Undertaking

Product Name: Adjust CH
UN/ID No UN1789
Synonyms: None
Formula: Not applicable to mixtures
Company Name:
Anderson Chemical Company, 325 South Davis Avenue Litchfield, MN 55355 (320-693-2477)

Emergency Telephone:
CHEMTREC (US): 1-800-424-9300

2. Hazards Identification

GHS - Classification

Acute toxicity - Oral	Category 3
Acute toxicity - Inhalation (Gases)	Category 3
Acute toxicity - Inhalation (Dusts/Mists)	Category 2
Skin corrosion/irritation	Category 1 Category 1A
Serious eye damage/eye irritation	Category 1
Respiratory sensitization	Category 1A
Specific target organ toxicity (single exposure)	Category 1
Specific target organ toxicity (repeated exposure)	Category 1

Signal Word: **Danger**
Hazard Statements:
• Toxic if swallowed
• Fatal if inhaled
• Causes severe skin burns and eye damage
• May cause allergy or asthma symptoms or breathing difficulties if inhaled
• Causes damage to organs
• Causes damage to organs through prolonged or repeated exposure
Physical Hazards

Corrosive to metals	Category 1

• May be corrosive to metals

Precautionary Statements:
• IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
• Rinse mouth
• Call a POISON CENTER or doctor/physician
• Use only outdoors or in a well-ventilated area
• Wear respiratory protection
• Store in a well-ventilated place. Keep container tightly closed
• IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
• IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
• Wash contaminated clothing before reuse
• IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
• Wear protective gloves/protective clothing/eye protection/face protection
• 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 or doctor/physician
• Avoid breathing dust/fume/gas/mist/vapors/spray
• In case of inadequate ventilation wear respiratory protection
• IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing
• If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician
• IF exposed: Call a POISON CENTER or doctor/physician
• Store locked up
• Do not breathe dust/fume/gas/mist/vapors/spray
• Wash face, hands and any exposed skin thoroughly after handling
• Do not eat, drink or smoke when using this product
• Get medical advice/attention if you feel unwell
• Dispose of contents/ container to an approved waste disposal plant
• Immerse in cool water/wrap in wet bandages
• Absorb spillage to prevent material damage
• Store in corrosive resistant aluminum container with a resistant inliner

3. Composition / Information on Ingredients

Hazardous

Chemical Name	CAS No	Weight-%	EC No
Hydrochloric acid	7647-01-0	15-20	231-595-7
Citric acid	77-92-9	10-20	201-069-1

Non-Hazardous

Chemical Name	CAS No	Weight-%	EC No
Water	7732-18-5	Balance	231-791-2

4. First Aid Measures

General Advice: Immediate medical attention is required.

Eye Contact: Keep eye wide open while rinsing. Immediate medical attention is required. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Do not rub affected area.

Skin Contact: Immediate medical attention is required. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.

Inhalation:	Move to fresh air. Call a physician or poison control center immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.
Ingestion:	Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Drink plenty of water. Immediate medical attention is required. Remove from exposure, lie down. Clean mouth with water and drink afterwards plenty of water. Call a physician or poison control center immediately.
Note to Physicians:	Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure. Treat symptomatically.
Self-protection of the First Aider:	Use personal protective equipment as required. Avoid contact with skin, eyes or clothing.

5. Fire-fighting Measures

Flammable Properties:
Not considered to be a fire hazard, Contact with metals may evolve flammable hydrogen gas

Explosive Properties:
Not considered to be an explosion hazard

Suitable Extinguishing Media:
Water, Water spray (fog), Neutralize with soda ash or slaked lime

Unsuitable Extinguishing Media:
No information available

Specific Hazards Arising from the Chemical:
The product causes burns of eyes, skin and mucous membranes, Thermal decomposition can lead to release of irritating and toxic gases and vapors, In the event of fire and/or explosion do not breathe fumes

Protective Equipment and Precautions for Firefighters:
In the event of a fire, wear full protective clothing and MSHA/NIOSH (approved or equivalent) self-contained breathing apparatus with full facepiece operated in the pressure-demand or other positive pressure mode, Cool containers with flooding quantities of water until well after fire is out, Structural firefighter's protective clothing is ineffective for fires involving hydrochloric acid. Stay away from ends of tanks

6. Accidental Release Measures

Personal Precautions:	Use personal protective equipment as required. Evacuate personnel to safe areas. Avoid contact with skin, eyes or clothing. Keep people away from and upwind of spill/leak.
Environmental Precautions:	Do not allow into any sewer, on the ground or into any body of water. Should not be released into the environment. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains.
Methods for Containment:	Prevent further leakage or spillage if safe to do so. Cover powder spill with plastic sheet or tarp to minimize spreading. Dike far ahead of liquid spill for later disposal.
Methods for Cleaning Up:	Dike far ahead of liquid spill for later disposal. Soak up with inert absorbent material. Take up mechanically, placing in appropriate containers for disposal. Clean contaminated surface thoroughly. Prevent product from entering drains. Dam up. After cleaning, flush away traces with water.
Other Information:	Not applicable.

7. Handling and Storage

Advice on Safe Handling: Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Use only with adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Use only with adequate ventilation and in closed systems.

Storage Conditions: Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep in properly labeled containers.

Incompatible Materials: Strong acids and bases; Oxidizing agents; Metals; Amines; Carbonates; Alkali; Cyanides; Sulfides; Sulfites; Formaldehyde

8. Exposure Controls / Personal Protection

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	Ontario TWA
Hydrochloric acid	Ceiling: 2 ppm	5 ppm Ceiling 5 ppm Ceiling 7 mg/m³ Ceiling 7 mg/m³ Ceiling	CEV: 2 ppm

Chemical Name	European Union	China	Japan	Korea	Australia	Taiwan
Hydrochloric acid	TWA 5 ppm TWA 8 mg/m³ STEL 10 ppm STEL 15 mg/m³	Ceiling: 7.5 mg/m³ Ceiling	Ceiling: 5 ppm Ceiling: 7.5 mg/m³	STEL: 2 ppm STEL: 3 mg/m³ TWA: 1 ppm TWA: 1.5 mg/m³	5 ppm Peak 7.5 mg/m³ Peak	

Exposure Guidelines Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992)

Engineering Controls: Ensure adequate ventilation, especially in confined areas

Personal protective equipment (PPE)

Eye/Face Protection: Tight sealing safety goggles. Face protection shield.

Body Protection: Gloves made of plastic or rubber. Suitable protective clothing. Rubber boots. Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact. Wear chemical resistant clothing such as gloves, apron, boots or whole bodysuits made from neoprene, as appropriate.

General Hygiene Considerations:

When using do not eat, drink or smoke. Wash contaminated clothing before reuse. Keep away from food, drink and animal feeding stuffs. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Avoid contact with skin, eyes or clothing. Take off all contaminated clothing and wash it before reuse. Wear suitable gloves and eye/face protection.

9. Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Physical State: Liquid
Appearance: No information available
Color: Clear Colorless
Odor: Pungent
Odor Threshold: No information available

Property	Values	Remarks • Method
pH:	1.0	
"Salt Out" Point (°F):		No information available
Melting Point/Freezing Point:		
Boiling Point/Boiling Range:	100 °C / 212 °C	
Flash Point:		No information available
Evaporation Rate (BuAc=1):		No information available
Flammability (solid, gas):		No information available
Flammability Limits in Air:		No information available
Upper Flammability Limit:		

Lower Flammability Limit:	
Vapor Pressure (mm Hg) :	No information available
Vapor density (Air =1)	No information available
Specific Gravity (H_2O=1):	No information available
Specific Gravity (2nd value):	No information available
Water Solubility:	Completely soluble
Solubility(ies):	No information available
Partition Coefficient (n-octanol/water)	No information available
Autoignition Temperature:	
Decomposition Temperature:	No information available
Kinematic Viscosity:	No information available
Dynamic Viscosity:	No information available
Oxidizing Properties:	No information available
Explosive Properties:	Not considered to be an explosion hazard

9.2. Other information

Softening Point:	No information available
Molecular Weight:	No information available
VOC Content(%):	No information available
Density:	1.15 @ 15°C (59°F)
Bulk Density:	No information available

10. Stability and Reactivity

Stability: Stable under normal conditions of use and storage

Conditions to Avoid: Extremes of temperature and direct sunlight; Incompatibles; Exposure to air or moisture over prolonged periods

Incompatible Materials: Strong acids and bases, Oxidizing agents, Metals, Amines, Carbonates, Alkali, Cyanides, Sulfides, Sulfites, Formaldehyde

Hazardous Decomposition Products: Thermal decomposition can lead to release of irritating and toxic gases and vapors; Emits toxic hydrogen chloride fumes when heated to decomposition; Thermal oxidative decomposition produces toxic chlorine fumes and explosive hydrogen gas

Possibility of Hazardous Reactions: None under normal processing

11. Toxicological Information

Product Information

Acute Toxicity: 0% of the mixture consists of ingredient(s) of unknown toxicity.

The following values are calculated based on chapter 3.1 of the GHS document

Chemical Name	Oral LD_{50} :	Dermal LD_{50} :	LC_{50} (Lethal Concentration):
Hydrochloric acid	700 mg/kg (Rat)	5010 mg/kg (Rabbit)	3124 ppm (Rat) 1 h
Citric acid	3000 mg/kg (Rat)		
Water	90 mL/kg (Rat)		

Chronic Toxicity:

Carcinogenicity: The table below indicates whether each agency has listed any ingredient as a carcinogen

Chemical Name	IARC
Hydrochloric acid	3

IARC (International Agency for Research on Cancer)
Not classifiable as a human carcinogen

Target Organ Effects: Eyes, Respiratory system, Skin

12. Ecological Information

Ecotoxicity

0% of the mixture consists of components(s) of unknown hazards to the aquatic environment

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to daphnia and other aquatic invertebrates
Hydrochloric acid		*282: 96 h Gambusia affinis mg/L LC50 static*	
Citric acid		*1516: 96 h Lepomis macrochirus mg/L LC50 static*	*120: 72 h Daphnia magna mg/L EC50*

Persistence and Degradability: No information available.

Bioaccumulation: No information available.

Mobility: No information available.

Chemical Name	Partition Coefficient:
Citric acid	-1.72

13. Disposal Considerations

Waste from Residues/Unused Products: Disposal should be in accordance with applicable regional, national and local laws and regulations

Contaminated Packaging: Do not reuse container.

14. Transport Information

DOT

Proper shipping name HYDROCHLORIC ACID MIXTURE
Hazard Class 8
UN/ID No UN1789
Packing Group II
Reportable Quantity (RQ) 5000 lbs
Description UN1789, HYDROCHLORIC ACID MIXTURE, 8, PG II

15. Regulatory Information

International Inventories

All of the components in the product are on the following Inventory lists: TSCA (United States):, Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Australia (AICS), South Korea (KECL):, China (IECSC), Philippines (PICCS),
This product contains a substance not listed on international inventories - it is for research and development use only.

AICS	Complies
TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	-
IECSC	Complies
KECL	Complies
PICCS	Complies

Chemical Name	AICS	TSCA	DSL	NDSL	EINECS	ELINCS	ENCS	IECSC	KECL	PICCS
Hydrochloric acid	Listed	Listed	Listed	-	Listed	-	(1)-215	Listed	KE-20189	Present
Citric acid	Listed	Listed	Listed	-	Listed	-	(2)-1318	Listed	KE-20831	Present
Water	Listed	Listed	Listed	-	Listed	-	-	Listed	KE-35400	Present

Inventory Legend

AICS - Australian Inventory of Chemical Substances
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances

RESTRICTIONS - REACH TITLE VII No information available

US Federal Regulations

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical Name	CERCLA Hazardous Substances and the Reportable Quantities	SARA Extremely Hazardous Substances EPCRA RQ	SARA Extremely Hazardous Substances TPQ
Hydrochloric acid	5000 lb 2270 kg	5000 lb EPCRA RQ (gas only)	500 lb TPQ

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	Percent by Weight
Hydrochloric acid	15-20

SARA 311/312 Hazards

Serious eye damage or irritation
Skin corrosion or irritation
Respiratory sensitization
Acute toxicity-Oral / Inhalation (Gases) (dusts/mists)
Specific target organ toxicity (single and repeated exposure)

U.S. State Right-to-Know Regulations

California Proposition 65:
This product does not contain any Proposition 65 chemicals

16. Other Information

National Fire Protection Association (NFPA) Ratings

Prepared By: HSE Department

Issue Date: 18-May-2012

Revision Date: 16-Sept-2020

Revision Note: Updated section(s) 15

Disclaimer:
Please be advised that it is your responsibility to inform your employees of the hazards of this substance, to advise them of what these properties mean and be sure they understand exposure information. 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 presented herein, while not guaranteed, was prepared by competent technical personnel and is true and accurate to the best of our knowledge. No warranty or guaranty, express or implied, is made regarding performance, stability, or otherwise. This information is not intented to be all-inclusive as to the manner and conditions of use, handling, and storage. Other factors may require additional safety or performance considerations. While our technical personnel will be happy to respond to questions regarding safe handling and use procedures, the handling and use remains the responsibility of the consumer. No suggestions are intended as, and should not be constructed as, a recommendation to infringe on any existing patents or to violate any Federal, State, or local laws.

End of Safety Data Sheet