SECTION 1: Identification of the Substance / Mixture and of the Company / Undertaking

1.1. Product Identifier

Product name	:	Acetic Acid
CAS-No.	:	64-19-7
Formula	:	CH_3COOH
Application	:	Acid

1.2. Details of the Distributor of the Safety Data Sheet

Company Name	:	GreenSol Limited
Address	:	#39-41 Marryat Street, San Fernando, Trinidad, West Indies
Telephone	:	+1(868) 225-4858
Mobile	:	+1(868) 720-2517
Email	:	sdeokiesingh@greensolltd.com

1.3. Emergency Telephone Number

Emergency Number	:	+1(868) 720-2517 (GREENSOL)
	:	+1(800) 424-9300 (CHEMTREC)

SECTION 2: Hazard Identification

GHS CLASSIFICATION : Flammable liquid (Category 3)
Skin corrosion (Category IA)
Serious eye damage (Category 1)

Hazard Pictogram :

GHS02

GHS05

Signal Word : **DANGER**

Hazard Phrases :
H226 - Flammable liquid and vapor
H314 - Causes severe skin burns and eye damage
H318 - Causes serious eye damage

Precautionary Phrases :
P210 - Keep away from heat/sparks/open flames/hot surfaces. No smoking
P233 - Keep container tightly closed
P240 - Ground/bond container and receiving equipment.
P241- Use explosion-proof electrical/ventilating/lighting/equipment
P242 - Use only non-sparking tools
P243 - Take precautionary measures against static discharge.
P264 - Wash skin thoroughly after handling

P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353 - IF ON SKIN (or hair): Remove immediately all contaminated clothing. Rinse skin with water.
P304+P340+P310 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or a doctor/physician.
P305+P351+P338+P310 - IN 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 a doctor/physician.
P363 - Wash contaminated clothing before reuse.P403+P235 - Store in a well-ventilated place. Keep cool.

SECTION 3: Composition / Information on Ingredients

Ingredient	Cas No.	%WT
Acetic Acid	(CAS-No.) 64-19-7	<=100

SECTION 4: First Aid Measures

Eyes : Thoroughly flush the eyes with large amounts of clean low-pressure water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Seek medical attention.

Skin : Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.

Ingestion : Do NOT induce vomiting. If victim is conscious and alert, rinse mouth with water. Never give anything by mouth to an unconscious person. Get medical aid immediately.

Inhalation : Remove person to fresh air. Seek medical attention. Give oxygen or artificial respiration as needed.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Flammability of the product : Flammable Liquid
Flash Point : 39oC
Auto Ignition Temperature : 485oC

NFPA Hazard Classification

Health	Flammability	Reactivity	Other
3	2	0	-

HMIS Hazard Classification

Health	Chronic Health Hazard	Flammability	Reactivity	Protection
3	*	2	0	-

Extinguishing Media	:	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Not suitable	:	Do not use water jet.
Special Fire Fighting Procedures	:	Wear protective clothing with NIOSH approved breathing apparatus.
Hazardous Decomposition Products	:	Products of combustion may be harmful in a fire situation.

SECTION 6: Accidental Release Measures

Methods and Material for Containment and Cleaning up

ACCIDENTAL RELEASE MEASURES	:	**Small spill and leak**: Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container. **Large spill and leak**: Stop leak if without risk. Move containers from spill area. Approach release from upwind.
Other Information	:	Prevent entry into sewers, water courses, basements or confined areas. Contain and collect spillage with non-combustible, absorbent material, e.g., sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product.

Note: see section 1 for emergency contact information and section 13 for waste disposal.

SECTION 7: Handling & Storage

Handling	:	Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Use empty containers to retain product, residue can be hazardous. Do not reuse container.

Storage	:	Store in accordance with local regulation. Store in a segregated and approved area. Store in original container protected from direct sunlight. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage.

SECTION 8: Exposure Controls / Personal Protection

Engineering controls	:	Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.
Eye protection	:	Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts. Recommended: Splash goggles.
Skin and body protection	:	Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Recommended: neoprene
Respiratory protection	:	Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
Work Hygiene Practices	:	Wash hands, forearms face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
Other Protective Clothing or Equipment	:	Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Recommended: lab coat

Exposure Guidelines

Component	Source	Type	Value	Note
Acetic Acid	OSHA PEL	TWA	10 ppm (25mg/m^3)	-
	NIOSH REL	TWA	10 ppm (25mg/mg^3)	-
	ACGIH TLV	TWA	10 ppm	-

SECTION 9: Physical and Chemical Properties

Appearance	:	Clear
Odor	:	Sour, vinegar like odor
Physical state	:	Liquid
pH	:	2.4 at 60.05 g/l
Boiling Point	:	244oF
Melting Point	:	N/A
Freezing Point	:	Pure compound is a solid below 62oF
Vapor Pressure (mmHg)	:	11 mm Hg
Vapor Density (AIR=1)	:	No data available
Evaporation Rate	:	No data available
Solubility in water	:	Soluble in water
Molecular weight	:	60.1g/mol
Viscosity	:	Not established

SECTION 10: Stability and Reactivity

Stability	:	Product is stable under normal conditions of use.
Conditions to Avoid (Stability)	:	Heat, flames and sparks.
Incompatibility (Material to avoid)	:	Strong oxidizers (especially chromic acid, sodium peroxide and nitric acid). Strong caustics [Note: Corrosive to metals.]
Hazardous Decomposition or By-Products	:	No data available
Hazardous Polymerization	:	No hazardous polymerization.
Conditions to Avoid (Polymerization)	:	Not applicable

SECTION 11: Toxicological Information

Acute Toxicity (Oral)	:	Oral LD50 Rat- 3,310 mg/kg
Acute Toxicity (Dermal)	:	LD50 Rabbit-1,112 mg/kg
Acute Toxicity (Inhalation)	:	LC50 Mouse- 1 hr. 5620 ppm remarks: Sense organs and special senses (Nose, Eye, Ear, and Taste
Skin corrosion/irritation	:	No data available
Serious eye damage/irritation	:	Eyes: Rabbit Result: Corrosive to eyes
Respiratory or skin sensitization	:	No data available
Carcinogenicity	:	Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA

Specific target organ toxicity- single exposure (Globally Harmonized System Aspiration hazard)	:	No data available
Aspiration hazard	:	No data available
Potential health effects	:	Inhalation: Nose, throat, lung irritation. Pulmonary edema, coughing, shortness of breath Ingestion: May cause severe and permanent damage to the digestive tract. Causes severe pain, nausea, vomiting, diarrhea, and shock Skin: Causes skin irritation, burns Eyes: Causes eye irritation, burns
Signs and Symptoms of Exposure	:	To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.
Routes of Entry	:	Inhalation, Skin and/or eye contact
Acute Health Hazards	:	See above, potential health effects.
Target Organs	:	Eyes, skin, respiratory system, teeth

SECTION 12: Ecological Information

12.1. Toxicity

Toxicity to fish	:	LC50 - Oncorhynchus mykiss (Rainbow trout) >1000 mg/l 96 hr.
Toxicity to daphnia and other aquatic invertebrates	:	EC50 - Daphnia magna (water flea) >300.82 mg/l 48 hr.

12.2. Persistence and Degradability

Readily biodegradable

12.3. Bio accumulative potential

No data available

12.4. Mobility in Soil

No data available

12.5. PBT and vPvB assessment

No data available

SECTION 13: Disposal Considerations

Waste Treatment Methods	:	Unused product: dispose as a regulated hazardous waste. Burn in a chemical incinerator with an afterburner and scrubber but exert extra caution as this material is highly flammable. Contact a

licensed professional waste disposal service to dispose of this material. Spent product or spill clean up-follow all provincial, local, state, and federal regulations.

SECTION 14: Transportation Information

U.S. DEPARTMENT OF TRANSPORTATION

Proper Shipping Name	:	Acetic Acid, glacial
Hazard Class	:	8 (3)
ID Number	:	UN2789
Packing Group	:	II
Label Statement	:	Corrosive
Environmental Hazard	:	REPORTABLE QUANTITY: 5000 lbs

AIR TRANSPORTATION

Proper Shipping Name	:	Acetic Acid, glacial
Hazard Class	:	8 (3)
ID Number	:	UN2789
Packing Group	:	II
Label Statement	:	Corrosive

IMDG

Proper Shipping Name	:	Acetic Acid, glacial
Hazard Class	:	8 (3)
EMS-No	:	F-E. S-C
ID Number	:	UN2789
Packing Group	:	II
Label Statement	:	Corrosive

Other Agencies:

Canadian TDG

Proper Shipping Name	:	Acetic Acid, glacial
Hazard Class	:	8 (3)
ID Number	:	UN2789
Packing Group	:	II
Label Statement	:	Corrosive, Flammable liquid

SECTION 15: Regulatory Information

United States

HCS Classification: Combustible liquid

U.S. Federal regulations:

United States inventory (TSCA 8b):

TSCA 8(d) H and S data reporting:

TSCA (Toxic Substance Control Act): This product is listed on the TSCA Inventory.
SARA 302/304/311/312 extremely hazardous substances: No products were found.
SARA 302/304 emergency planning and notification: No products were found.
SARA 302/304/311/312 hazardous chemicals:
SARA 311/312 MSDS distribution - chemical inventory - hazard identification:
Fire Hazard, Acute Health Hazard, Chronic Health Hazard
Clean Water Act (CWA) 307:
Clean Water Act (CWA) 311: Reportable quantity: 5000 lbs
Clean Air Act (CAA) 112 accidental release prevention: No products were found.
Clean Air Act (CAA) 112 regulated flammable substances: No products were found.
Clean Air Act (CAA) 112 regulated toxic substances: No products were found.

DEA List 1 & I| Chemicals (Precursor Chemicals): Not listed
Massachusetts Substances: The following components are listed: Acetic Acid
New Jersey Hazardous Substances: The following components are listed: Acetic Acid
Pennsylvania RTK Hazardous Substances: The following components are listed: Acetic Acid
Rhode Island Hazardous Substances: The following components are listed: Acetic Acid

California Prop. 65
This product does not contain any chemicals known to the State of California to cause birth defects or other reproductive harm.

CANADA
WHMIS (Canada): Class B-3: Combustible liquid
Class E: Corrosive material
Canadian lists: **CEPA Toxic substances:** None of the components are listed
Canadian ARET: None of the components are listed.
Canadian NPRI: The following components are listed.
Alberta Designated Substances: None of the components are listed.
Ontario Designated Substances: None of the components are listed.
Quebec Designated Substances: None of the components are listed.

CEPA DSL / CEPA NDSL: All components are listed or exempted.
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

International regulations
International lists: **Australia inventory (AICS):** All components are listed or exempted.
China inventory (IECSC): Not determined.
Japan inventory: All components are listed or exempted.
Korea inventory: All components are listed or exempted.

New Zealand Inventory of Chemicals (NZIoC): Not determined. **Philippines inventory (PICCS):** All components are listed or exempted.

SECTION 16: Other Information

National Fire Protection Association (U.S.A.)

Notice to Reader:

This SDS provides the information contained in this document in good faith but makes no representation as to its accuracy. This document is intended solely to guide the safe handling of the material by a properly trained individual. The final determination of the suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be handled with caution. Although some hazards are described, it cannot be guaranteed that these are the only hazards that exist.

Version	Date of Change	Change Description	Responsible Person
1	11-01-2024	Updated to supplier SDS Rev. 2	Laboratory Coordinator