Section 1: IDENTIFICATION

Product Name:	Acid Gas
Synonyms:	Raw Gas
Product Use:	Fuel; Refinery feedstock.
Restrictions on Use:	Not available.
Manufacturer/Supplier:	ARC Resources Ltd. 1200, 308 4th Avenue SW Calgary, AB, T2P 0H7
Phone Number:	403-503-8600
Emergency Phone:	403-292-0434 CANUTEC: 1-888-CAN-UTEC (226-8832), 613-996-6666 or *666 on a cellular phone
Date of Preparation of SDS:	July 20, 2021

Section 2: HAZARD(S) IDENTIFICATION

GHS INFORMATION

Classification: Gases Under Pressure - Compressed Gas
Acute Toxicity - Inhalation, Category 2
Eye Irritation, Category 2A

LABEL ELEMENTS

Hazard Pictogram(s):

Signal Word: Danger

Hazard Statements:
Contains gas under pressure; may explode if heated.
Fatal if inhaled.
Causes serious eye irritation.

Precautionary Statements

Prevention:
Do not breathe gas.
Wash thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Wear protective gloves, protective clothing and eye protection.
Wear respiratory protection.

Response:
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.
Immediately call a POISON CENTER or doctor.
If eye irritation persists: Get medical advice/attention.

Storage:
Store in a well-ventilated place. Keep container tightly closed.
Store locked up.

Disposal: Dispose of contents/container in accordance with applicable regional, national and local laws and regulations.

Hazards Not Otherwise Classified: Not applicable.

Ingredients with Unknown Toxicity: None.

This material is considered hazardous by the OSHA Hazard Communication Standard, (29 CFR 1910.1200). This material is considered hazardous by the Hazardous Products Regulations.

Section 3: COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Ingredient(s)	Common name / Synonyms	CAS No.	% vol./vol.
Carbon dioxide	Not available.	124-38-9	50 - 70
Hydrogen sulfide (H2S)	Hydrogen sulphide	7783-06-4	30 - 45
Methane	Not available.	74-82-8	0 - 5

Section 4: FIRST-AID MEASURES

Inhalation:

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor.

Acute and delayed symptoms and effects: Fatal if inhaled. May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain. Inhalation of Hydrogen sulphide may cause loss of sense of smell, major irritation of the respiratory tract, headache, nausea, vomiting, dizziness, and fluid buildup in the lungs (pulmonary edema), which can be fatal. At 300 ppm unconsciousness may occur after 20 minutes. From 300 to 500 ppm, death can occur within minutes of continuous exposure. Above 500 ppm Hydrogen sulphide may cause instantaneous loss of consciousness and immediate death. Inhalation of high concentrations of Carbon dioxide may result in narcotic effects including headache and disorientation.

Eye Contact:

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. Flush eyes with plenty of lukewarm water for at least 15 minutes.

Acute and delayed symptoms and effects: Contact with rapidly expanding or liquefied gas may cause irritation and/or frostbite. The pain after contact with liquid can quickly subside. Permanent eye damage or blindness could result. Causes serious eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision. Hydrogen sulphide may cause eye irritation at 1-20 ppm and acute conjunctivitis at higher concentrations. Above 50 ppm H2S, eye irritation may include symptoms of redness, severe swelling, tearing, sensitivity to light and the appearance of 'Halos' around lights.

Skin Contact:

IF ON SKIN: Wash with plenty of water. Get immediate medical advice/attention. Thaw frosted parts with lukewarm water. Do not rub affected area. Contact with rapidly expanding or liquefied gas may cause

irritation and/or frostbite. Flush immediately with warm water. Remove non-adhering contaminated clothing. Do not remove adherent material or clothing.

Acute and delayed symptoms and effects: Contact with rapidly expanding or liquefied gas may cause irritation and/or frostbite. Symptoms of frostbite include change in skin color to white or grayish-yellow. The pain after contact with liquid can quickly subside. May cause skin irritation. Signs/symptoms may include localized redness, swelling, and itching.

Ingestion: Not a normal route of exposure. IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration. Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.

Acute and delayed symptoms and effects: Not a normal route of exposure. May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

General Advice: In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).

Note to Physicians: Symptoms may not appear immediately. For inhalation of Hydrogen Sulphide, consider oxygen.

Section 5: FIRE-FIGHTING MEASURES

FLAMMABILITY AND EXPLOSION INFORMATION

Due to the high percentage of Carbon dioxide, this material is not flammable.

WARNING: If Carbon dioxide levels were to decrease sufficiently, this material should be treated as a highly flammable gas (due to Hydrogen sulphide and Methane content).

Contains gas under pressure; may explode if heated.

If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

Fire involving Tanks: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire.

Sensitivity to Mechanical Impact: This material is not sensitive to mechanical impact.
Sensitivity to Static Discharge: This material is not sensitive to static discharge.

MEANS OF EXTINCTION

Suitable Extinguishing Media: Small Fire: Dry chemical or CO2.

Large Fire: Water spray, fog or regular foam. Do not get water inside containers.

Unsuitable Extinguishing Media: Not available.

Products of Combustion:	Oxides of carbon. Oxides of sulphur.
Protection of Firefighters:	TOXIC; may be fatal if inhaled or absorbed through skin. Vapors may be irritating. Contact with gas or liquefied gas may cause burns, severe injury and/or frostbite. Fire will produce irritating, corrosive and/or toxic gases. Runoff from fire control may cause pollution. Hydrogen sulphide is heavier than air and may collect in low lying areas and confined spaces. Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.

Section 6: ACCIDENTAL RELEASE MEASURES

Emergency Procedures:	As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. Keep unauthorized personnel away. Stay upwind. Many gases are heavier than air and will spread along ground and collect in low or confined areas (sewers, basements, tanks). Keep out of low areas. Ventilate closed spaces before entering.
Personal Precautions:	Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Use personal protection recommended in Section 8. Don full-face, positive pressure, self-contained breathing apparatus.
Environmental Precautions:	Not available.
Methods for Containment:	Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak.
Methods for Clean-Up:	Isolate area until gas has dispersed.
Other Information:	See Section 13 for disposal considerations.

Section 7: HANDLING AND STORAGE

Handling:
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not breathe gas. Wash thoroughly after handling. See Section 8 for information on Personal Protective Equipment.

Storage:
Limit quantity of material in storage. Restrict access to storage area. Post appropriate warning signs. Keep storage area separate from populated work areas. Consider leak detection and alarm systems, as required. Store in a well-ventilated place. Keep container tightly closed. Store locked up. Store away from incompatible materials. See Section 10 for information on Incompatible Materials. Keep out of the reach of children. Structural materials and lighting and ventilation systems should be corrosion resistant.

Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines
Component

Carbon dioxide [CAS No. 124-38-9]

ACGIH: 5000 ppm (TWA); 30000 ppm (STEL); (1983)

OSHA: 5000 ppm (TWA), 9000 mg/m³ (TWA);

Hydrogen sulphide [CAS No. 7783-06-4]

ACGIH: 1 ppm (TWA); 5 ppm (STEL); (2009);

OSHA: 20 ppm (C); 50 ppm (Peak) (Maximum duration: 10 mins. once only if no other meas. exp. occurs.)
10 ppm (TWA); 15 ppm (STEL) [Vacated];

Methane [CAS No. 74-82-8]

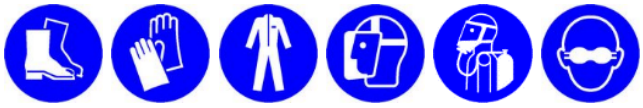
ACGIH: Asphyxia

OSHA: No PEL established.

PEL: Permissible Exposure Limit
TLV: Threshold Limit Value
TWA: Time-Weighted Average
STEL: Short-Term Exposure Limit
C: Ceiling

Engineering Controls: Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapour, gas, etc.) below recommended exposure limits.

PERSONAL PROTECTIVE EQUIPMENT (PPE)



Eye/Face Protection: Wear chemical safety goggles. Ensure that eyewash stations are close to the workstation location. Use equipment for eye protection that meets the standards referenced by CSA Standard CAN/CSA-Z94.3-92 and OSHA regulations in 29 CFR 1910.133 for Personal Protective Equipment.

Hand Protection: Wear cold insulating gloves. Consult manufacturer specifications for further information.

Skin and Body Protection: Wear protective clothing.

Respiratory Protection:	Wear respiratory protection. If engineering controls and ventilation are not sufficient to control exposure to below regulatory limits then a self-contained breathing apparatus or supplied air breathing apparatus must be used.
General Hygiene Considerations:	Handle according to established industrial hygiene and safety practices. Consult a competent industrial hygienist to determine hazard potential and/or the PPE manufacturers to ensure adequate protection.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Colourless gas.
Colour:	Colourless.
Odour:	Rotten eggs. May be odourless due to high concentration of Hydrogen sulphide.
Odour Threshold:	0.0047 ppm, (Hydrogen sulphide)
Physical State:	Gas.
pH:	Not available.
Melting Point / Freezing Point:	Not available.
Initial Boiling Point:	Not available.
Boiling Range:	Not available.
Flash Point:	Not available.
Evaporation Rate:	Not available.
Flammability (solid, gas):	Due to the high percentage of Carbon dioxide, this material is not flammable. In the absence of high concentrations of Carbon dioxide, this material should be considered a highly flammable gas.
Lower Flammability Limit:	4.3% (Hydrogen sulphide) 5% (Methane)
Upper Flammability Limit:	46% (Hydrogen sulphide) 15% (Methane)
Vapor Pressure:	Not available.
Vapor Density:	Not available.
Relative Density:	1.364 to 1.371 (Water = 1) at 15 °C (59 °F)
Solubilities:	Not available.
Partition Coefficient: n-Octanol/Water:	Not available.
Auto-ignition Temperature:	Not available.

Decomposition Temperature:	Not available.
Viscosity:	Not available.
Percent Volatile, wt. %:	100 %
VOC content, wt. %:	Not available.
Density:	1.671 to 1.679 kg/m³ at 15 °C (59 °F)
Coefficient of Water/Oil Distribution:	Not available.

Section 10: STABILITY AND REACTIVITY

Reactivity:	Contact with incompatible materials. Sources of ignition. Exposure to heat.
Chemical Stability:	Stable under normal storage conditions.
Possibility of Hazardous Reactions:	Dusts of various metals, such as magnesium, zirconium, titanium, aluminum, chromium & manganese are ignitable and explosive when suspended in Carbon dioxide. Forms carbonic acid in water.
Conditions to Avoid:	Contact with incompatible materials. Sources of ignition. Exposure to heat.
Incompatible Materials:	Bases. Oxidizers. Metals. Halogens. Metal oxides. Metal salts.
Hazardous Decomposition Products:	Hazardous sulphur dioxide, and related oxides of sulphur may be generated upon combustion.

Section 11: TOXICOLOGICAL INFORMATION

EFFECTS OF ACUTE EXPOSURE

Product Toxicity

Oral: Not available.

Dermal: Not available.

Inhalation: Not available.

Component Toxicity

Component	CAS No.	LD_{50} oral	LD_{50} dermal	LC_{50}
Carbon dioxide	124-38-9	Not available.	Not available.	Not available.
Hydrogen sulphide	7783-06-4	Not available.	Not available.	444 ppm (rat); 4H
Methane	74-82-8	Not available.	Not available.	Not available.

Eye contact. Skin contact. Inhalation.

Likely Routes of Exposure:

Target Organs: Skin. Eyes. Respiratory system. Lungs. Blood. Cardiovascular system. Central nervous system.

Symptoms (including delayed and immediate effects)

Inhalation: Fatal if inhaled. May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain. Inhalation of Hydrogen sulphide may cause loss of sense of smell, major irritation of the respiratory tract, headache, nausea, vomiting, dizziness, and fluid buildup in the lungs (pulmonary edema), which can be fatal. At 300 ppm unconsciousness may occur after 20 minutes. From 300 to 500 ppm, death can occur within minutes of continuous exposure. Above 500 ppm Hydrogen sulphide may cause instantaneous loss of consciousness and immediate death. Inhalation of high concentrations of Carbon dioxide may result in narcotic effects including headache and disorientation.

Eye: Contact with rapidly expanding or liquefied gas may cause irritation and/or frostbite. The pain after contact with liquid can quickly subside. Permanent eye damage or blindness could result. Causes serious eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision. Hydrogen sulphide may cause eye irritation at 1-20 ppm and acute conjunctivitis at higher concentrations. Above 50 ppm H2S, eye irritation may include symptoms of redness, severe swelling, tearing, sensitivity to light and the appearance of 'Halos' around lights.

Skin: Contact with rapidly expanding or liquefied gas may cause irritation and/or frostbite. Symptoms of frostbite include change in skin color to white or grayish-yellow. The pain after contact with liquid can quickly subside. May cause skin irritation. Signs/symptoms may include localized redness, swelling, and itching.

Ingestion: Not a normal route of exposure. May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

Skin Sensitization: Not available.

Respiratory Sensitization: Not available.

Medical Conditions Aggravated By Exposure: Not available.

EFFECTS OF CHRONIC EXPOSURE (from short and long-term exposure)

Target Organs: Skin. Eyes. Respiratory system. Lungs. Blood. Cardiovascular system. Central nervous system.

Chronic Effects: Hydrogen sulphide may reduce lung function; cause neurological effects such as headaches, nausea, depression and personality changes; eye and mucous membrane irritation; and damage to cardiovascular system.

Carcinogenicity: This product does not contain any carcinogens or potential carcinogens as listed by ACGIH, IARC, OSHA, or NTP.

Mutagenicity: Not available.

Reproductive Effects: Not available.

Developmental Effects

Teratogenicity: Not available.

Embryotoxicity: Not available.

Toxicologically Synergistic Materials: Not available.

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity: Not available.

Persistence / Degradability: Not available.

Bioaccumulation / Accumulation: Not available.

Mobility in Environment: Not available.

Other Adverse Effects: Not available.

Section 13: DISPOSAL CONSIDERATIONS

Disposal Instructions: Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

Section 14: TRANSPORT INFORMATION

U.S. Department of Transportation (DOT)

Proper Shipping Name: UN1955, COMPRESSED GAS, TOXIC, N.O.S. (Hydrogen sulphide), 2.3

Class: 2.3

UN Number: UN1955

Packing Group: Not applicable.

Placard(s):

Canada Transportation of Dangerous Goods (TDG)

Proper Shipping Name: UN1955, COMPRESSED GAS, TOXIC, N.O.S. (Hydrogen sulphide), 2.3

Class: 2.3

UN Number: UN1955

Packing Group: Not applicable.

Placard(s):

Section 15: REGULATORY INFORMATION

Chemical Inventories

US (TSCA)
The components of this product are in compliance with the chemical notification requirements of TSCA.

Canada (DSL)
The components of this product are in compliance with the chemical notification requirements of the NSN Regulations under CEPA, 1999.

Federal Regulations

United States
This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SARA Title III

Component	Section 302 (EHS) TPQ (lbs.)	Section 304 EHS RQ (lbs.)	CERCLA RQ (lbs.)	Section 313	RCRA CODE	CAA 112(r) TQ (lbs.)
Hydrogen sulphide	500	100	100	313	U135	10000
Methane	Not listed.	Not listed.	Not listed.	Not listed.		10000

State Regulations
Massachusetts
US Massachusetts Commonwealth's Right-to-Know Law (Appendix A to 105 Code of Massachusetts Regulations Section 670.000)

Component	CAS No.	RTK List
Carbon dioxide	124-38-9	Listed.
Hydrogen sulphide	7783-06-4	E
Nitrogen	7727-37-9	Listed.
Methane	74-82-8	Listed.

Note: E = Extraordinarily Hazardous Substance

New Jersey
US New Jersey Worker and Community Right-to-Know Act (New Jersey Statute Annotated Section 34:5A-5)

Component	CAS No.	RTK List
Carbon dioxide	124-38-9	Listed.
Hydrogen sulphide	7783-06-4	SHHS
Methane	74-82-8	SHHS

Note: SHHS = Special Health Hazard Substance

Pennsylvania
US Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323)

Component	CAS No.	RTK List
Carbon dioxide	124-38-9	Listed.
Hydrogen sulphide	7783-06-4	E
Methane	74-82-8	Listed.

Note: E = Environmental Hazard; S = Special Hazardous Substance

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

Section 16: OTHER INFORMATION

Disclaimer:
The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for their own particular use.

Date of Preparation of SDS: July 20, 2021

Version: 2.0

GHS SDS Prepared by: **Deerfoot Consulting Inc.**

Phone: (403) 720-3700