

Safety Data Sheet



Section 1: Identification

Product Name: Y-Grade

Recommended Use: Fuel

Manufacturer: Anadarko Petroleum Corporation
1201 Lake Robins Dr.
The Woodlands, TX 77380
United States
www.anadarko.com
(832) 636-1000 (General)

Emergency Telephone Number: ChemTel: (831) 248-0585 (International)
(800) 255-3924 (North America)

Section 2: Hazard Identification

Classification:

- Flammable Liquids 1
- Gases under pressure
- Acute toxicity, Inhalation 3
- Carcinogenicity 1

Label Elements:

DANGER



Hazard Statements:

- Extremely flammable liquid and vapor.
- Contains gas under pressure. May explode if heated.
- Causes skin irritation.
- May be fatal if swallowed and enters airways.
- May contain or release poisonous hydrogen sulfide gas.
- May cause drowsiness or dizziness.
- May cause cancer.

Precautionary Statements:

Prevention

- Obtain special instructions before use.
- Do not handle until all safety precautions have been read and understood.
- Keep away from heat, sparks, open flames and/or hot surfaces - No smoking.
- Avoid breathing dust/fume/gas/mist/vapors/spray.
- Use only outdoors or in a well-ventilated area.
- Wear protective gloves/protective clothing/eye protection/face protection.

Response

- Eliminate all ignition sources if safe to do so.
- If on skin, remove/take off immediately all contaminated clothing. Rinse skin with water/shower.
- If skin irritation occurs, get medical advice/attentions.
- If swallowed, immediately call a Poison Center or doctor/physician.
- Do Not induce vomiting.
- IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- Call a POISON CENTER or doctor/physician if you feel unwell.

Storage/Disposal

- Store in a well-ventilated place. Protect from extreme heat.
- Store locked up.
- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Other information:



NFPA 704 Hazard Class

Health: 2
 Flammability: 4
 Instability: 0

(0-Minimum, 1-Slight, 2-Moderate, 3-Serious, 4-Severe)

HMIS Hazard Rating

Health	3
Flammability	4
Physical Hazard	0

(0-Minimum, 1-Slight, 2-Moderate, 3-Serious, 4-Severe)

Section 3: Composition/Information on Ingredients

Component	CAS Number	Concentration
Mixture of Aliphatic Hydrocarbons C2-C8	NDA	>99%
Hydrogen Sulfide (gas)	7783-06-4	varies
Benzene	71-43-2	varies

All concentrations are percent by weight unless ingredient is gas. Gas concentrations are in percent by volume.

Synonyms: Demethanized Mix, Dethanized Mix, NGL Mixture, LPG Gas

Section 4: First-Aid Measures

Inhalation:	Move victim to fresh air. Administer oxygen if breathing is difficult. Give artificial respiration if victim is not breathing. If signs/symptoms continue, get medical attention.
Skin:	Liquefied gases may cause cryogenic burns or injury. Treat burned or frostbitten skin by flushing or immersing the affected area(s) in lukewarm water. Do not rub affected area. Do not remove clothing that adheres due to freezing. After sensation has returned to the frostbitten skin, keep skin warm, dry, and clean. If blistering occurs, apply a sterile dressing. Seek immediate medical attention.
Eye:	In case of contact with substance, immediately flush eyes with running water for at least 20 minutes. If eye irritation persists: Get medical advice/attention.
Ingestion:	Not expected under normal conditions due to gaseous state. If residual associated liquids is swallowed contact a physician immediately.
Most Important Symptoms and Effects, both Acute and Delayed:	Refer to Section 11 - Toxicological Information.
Notes to Physician:	All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

Section 5: Fire-Fighting Measures

Suitable Extinguishing Media:	Dry chemical or carbon dioxide is recommended.
Unsuitable Extinguishing Media:	Do not extinguish a leaking gas flame unless absolutely necessary. Spontaneous/explosive re-ignition may occur. Extinguish any other fire.
Unusual Fire and Explosion Hazards:	Closed containers may be under pressure and can explode due to buildup of pressure when exposed to extreme heat. Caution - Material is extremely flammable! Do not use or store near heat or ignition source.

Hazardous Combustion Products:

Combustion may yield smoke, carbon monoxide, and other products of incomplete combustion. Hydrogen sulfide and oxides of nitrogen and sulfur may also be formed.

Advice for Firefighters:

Structural firefighters' protective clothing will only provide limited protection. Wear positive pressure self-contained breathing apparatus (SCBA). Move containers from fire area if you can do it without risk. LARGE FIRES: Cool containers with flooding quantities of water until well after fire is out.

Section 6: Accidental Release Measures

Personal Precautions:

Extremely flammable. Contains poisonous hydrogen sulfide gas. If the presence of dangerous amounts of H₂S around the spilled product is suspected, additional or special actions may be warranted, including access restrictions and use of protective equipment. Spillages of liquid product will create a fire hazard and may form an explosive atmosphere. Keep all sources of ignition and hot metal surfaces away from spill/release if safe to do so. The use of explosion-proof electrical equipment is recommended. Beware of accumulation of gas in low areas or contained areas, where explosive concentrations may occur. Prevent from entering drains or any place where accumulation may occur.

Emergency Procedures:

Ventilate area and allow to evaporate. Stay upwind and away from spill/release. Avoid direct contact with material. For large spillages, notify persons downwind of the spill/release, isolate immediate hazard area and keep unauthorized personnel out. Wear appropriate protective equipment, including respiratory protection.

Environmental Precautions:

Stop spill/release if it can be done safely. Water spray may be useful in minimizing or dispersing vapors. If spill occurs on water notify appropriate authorities and advise shipping of any hazard.

Methods for Containment and Clean-up:

Notify relevant authorities in accordance with all applicable regulations. Recommended measures are based on the most likely spillage scenarios for this material; however local conditions and regulations may influence or limit the choice of appropriate actions to be taken.

Section 7: Handling and Storage

Precautions for Safe Handling:

Use only with adequate ventilation. Keep away from heat, sparks, and flame. All equipment used when handling the product must be grounded. Dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Wear appropriate personal protective equipment, avoid direct contact. Do not breathe mist, vapors and/or spray. Avoid contact with skin, eyes, and clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames.

Conditions for Safe Storage: Store in a cool/low-temperature, well-ventilated dry place away from heat and ignition sources. Keep away from incompatible materials.

Section 8: Exposure Controls/Personal Protection

Component	ACGIH	NIOSH	OSHA	Other
Mixture of Aliphatic Hydrocarbons C2-C8				
Hydrogen Sulfide	STEL: 5 ppm TWA: 1 ppm	Ceiling (10 min): 10 ppm Ceiling (10 min): 15 mg/m ³	Ceiling: 20 ppm	Ceiling (Wyoming): 10 ppm
Benzene	STEL: 2.5 ppm TWA: 0.5 ppm	STEL: 1 ppm TWA: 0.1 ppm	Ceiling (Z-2 PEL): 25 ppm STEL: 5 ppm TWA (Z-2 PEL): 10 ppm TWA: 1 ppm	

Engineering Measures/Controls: If current ventilation practices are not adequate to maintain airborne concentrations below the established exposure limits, additional engineering controls may be required.

Respiratory Protection: A NIOSH approved, self-contained breathing apparatus (SCBA) or equivalent operated in a pressure demand or other positive pressure mode should be used in situations of oxygen deficiency (oxygen content less than 19.5 percent), unknown exposure concentrations, or situations that are immediately dangerous to life or health (IDLH).

Eye/Face Protection: Wear chemical splash safety goggles.

Skin/Body Protection: The use of skin protection is not normally required; however, good industrial hygiene practice suggests the use of gloves or other appropriate skin protection whenever working with chemicals. Wear thermal insulating gloves and face shield or eye protection when working with materials that present thermal hazards (hot or cold).

Environmental Exposure Controls: Controls should be engineered to prevent release to the environment, including procedures to prevent spills, atmospheric release and release to waterways. Follow best practice for site management and disposal of waste.

Section 9: Physical and Chemical Properties

Physical Form:	Liquefied Gas
Appearance:	Colorless gas
Color:	Colorless
Odor:	Odorless to slight petroleum, Rotten egg/sulfurous odor
Odor Threshold:	No data available
Boiling Point:	>-75°F (>-59.4°C)
Melting Point:	No data available
Decomposition Temperature:	No data available
pH:	No data available
Specific Gravity (water=1):	>1
Water Solubility:	Negligible
Viscosity:	No data available
Explosive Properties:	No data available
Oxidizing Properties:	No data available
Vapor Pressure:	200 - 500 mmHg at 68°F (20°C)
Vapor Density (air=1):	>1
Evaporation Rate (water=1):	No data available
VOC (Vol.):	No data available
Flash Point (TCC):	-40°F (-40°C)
UEL:	7.8%
LEL:	1.1%
Autoignition:	400°F (204.4°C)
Flammability (solid, gas):	No data available
Octanol/Water Partition Coefficient:	No data available

Section 10: Stability and Reactivity

Reactivity:	No dangerous reaction known under conditions of normal use.
Chemical Stability:	Stable under normal temperatures and pressures.
Possibility of Hazardous Reactions:	Hazardous polymerization will not occur.
Conditions to Avoid:	Extreme temperatures, open flames, other ignition sources.
Incompatible Materials:	Strong oxidizers, strong acids.
Hazardous Decomposition Products:	Under fire conditions, oxides of carbon, sulfur, hydrocarbons, vapors, and smoke may be produced.

Section 11: Toxicological Information

Components	CAS Number	Acute Toxicity
Mixture of aliphatic Hydrocarbons C2-C8 (>99%)	NDA	NDA
Hydrogen Sulfide (varies)	7783-06-4	Inhalation-Rat LC50 : 444 ppm 4 Hour(s)
Benzene (varies)	71-43-2	Ingestion/Oral-Rat LD50: 930 mg/kg Ingestion/Oral-Rat LD50: 1 mL/kg Inhalation-Mouse LC50: 9980 ppm Inhalation- Rat LC50: 6.5 mL/kg/4H

Potential Health Effects

- Inhalation:** Toxic if inhaled.
- Skin:** Skin contact is not anticipated.
- Eye:** Causes eye irritation.
- Ingestion:** Ingestion is not anticipated
- Chronic (Delayed):** Chronic exposure to benzene results primarily in hematotoxicity, including aplastic anemia, pancytopenia, or any combination of anemia, leukopenia, and thrombocytopenia. Chromosomal abnormalities have been found in people exposed to benzene a component of this material. Micronuclei and DNA damage have been found in human lymphocytes and in mice.
- Mutagenic Effects:**
- Carcinogenic Effects:** This product contains Polycyclic Aromatic Hydrocarbons (PAHs), which are considered as carcinogens by many research and governmental agencies, and contains Benzene, which is similarly considered carcinogenic.

Carcinogenic Effects				
	CAS	OSHA	IARC	NTP
Benzene	71-43-2	Specifically Regulated Carcinogen	Group 1-Carcinogenic	Known Human Carcinogen

Reproductive Effects: Repeated and prolonged exposure may affect the reproductive system.

Section 12: Ecological Information

- Toxicity:** Petroleum gases will readily evaporate from the surface and would not be expected to have significant adverse effects in the aquatic environment. Classification: No classified hazards.
- Persistence and Degradability:** Material data lacking.
- Bioaccumulative Potential:** Material data lacking.
- Mobility in Soil:** Material data lacking.
- Other Adverse Effects:** No studies have been found.

Section 13: Disposal Considerations

- Product Waste:** Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.
- Packaging Waste:** Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Section 14: Transport Information

	UN Number	UN Proper Shipping Name	Transport Hazard Class(es)	Packing Group
DOT	UN1953	Compressed gas, toxic, flammable, n.o.s. (hydrogen sulfide)	2.3	NDA
TDG	UN1953	Compressed gas, toxic, flammable, n.o.s. (hydrogen sulfide)	2.3	NDA
IMO/IMDG	UN1953	Compressed gas, toxic, flammable, n.o.s. (hydrogen sulfide)	2.3	NDA
IATA/ICAO	UN1953	Compressed gas, toxic, flammable, n.o.s. (hydrogen sulfide)	2.3	NDA

Special Precautions for User: None specified.

Transport in bulk according to Annex II Of MARPOL 73/78 and the IBC Code: No data available.

Section 15: Regulatory Information

CERCLA/SARA – Section 302 Extremely Hazardous Substances and TPQs (in pounds)

This material contains the following chemicals subject to the reporting requirements of SARA 302 and 40 CFR 372:

Component	TPQ	EPCRA RQ
Hydrogen Sulfide	500 lb	100 lb

CERCLA/SARA – Section 311/312 (Title III Hazard Categories)

Acute Health: Yes
 Chronic Health: Yes
 Fire Hazard: Yes
 Pressure Hazard: Yes
 Reactive Hazard: No

CERCLA/SARA – Section 313 and 40 CFR 372

This material contains the following chemicals subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR 372:

Component	De minimis
Hydrogen Sulfide	1.0%
Benzene	0.1%

International Hazard Classification

Canada:

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

WHMIS Hazard Class:

A
 B1
 D

National Chemical Inventories

Component	CAS Number	TSCA
Hydrogen Sulfide	7783-06-4	Yes
Benzene	71-43-2	Yes

Section 16: Other Information

Last Revision Date: 28/September/2010

Preparation Date: 29/May/2015

Other Information: Version 1

Disclaimer/Statement of Liability: The information contained herein is believed to be accurate but is not warranted to be so. Data and calculations are based on information furnished by the manufacturer of the product and manufacturers of the components of the product. Users are advised to confirm in advance of need that information is current, applicable and suited to the circumstances of use. Vendor makes no warranties, expressed or implied, including, but not limited to, any implied warranty of merchantability or fitness for a particular purpose or course of performance or usage of trade. Vendor assumes no responsibility for injury to vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Furthermore, vendor assumes no responsibility for injury caused by abnormal use of this material even if reasonable safety procedures are followed. Any questions regarding this product should be directed to the manufacturer of the product as described in Section 1.

Key to abbreviations

NDA = No data available

LD = Lethal Dose

TC = Toxic Concentration

D = Toxic Dose

ACGIH = American Conference of Governmental Industrial Hygiene

NIOSH = National Institute of Occupational Safety and Health

OSHA = Occupational Safety and Health Administration

STEL = Short Term Exposure Limits are based on 15-minute exposures

TWA = Time-Weighted Averages are based on 8h/day, 40h/week exposures