

AR Spray

Material Safety Data Sheet (MSDS)

1. Product and Company Identification

Product name: AR Spray
Manufacturer: J. Morita Mfg. Corp.
680 Higashihama Minami-Cho, Fushimi-Ku, Kyoto
Distributor: J. Morita USA, Inc.
9 Mason, Irvine, CA 92618, USA
Emergency phone number: CHEMTREC 1-800-424-9300 (US & Canada)
CHEMTREC 1-703-527-3887 (Outside US & Canada)
Date prepared: 2/20/07

2. Composition/Information of Ingredients

Single product/mixture: mixture

Chemical name or generic name	Propane	Butane
Content	23.5 wt%	54.9 wt%
Chemical formula	C ₃ H ₈ (CH ₃ CH ₂ CH ₃)	C ₄ H ₁₀ (CH ₂ CH ₂ CH ₂ CH ₃)
CAS No.	74-98-6	106-97-8
UN Hazard Code	Class 2.1	Class 2.1
UN No.	1075	1075

3. Hazard Identification

Classification: High pressure gas, combustible gas
Hazardous nature: Combustible
Explosive if mixed with air

4. First-aid Measures

In case of inhalation:

- Move to a place with fresh air and keep warm and at rest.
- Give artificial respiration in case of respiratory arrest, or give oxygen in case of respiratory difficulty. Get medical attention.
- Unconscious, injured persons should be held and carried in a stable lateral recumbent position.

In case of contact with skin:

- Take off contaminated clothes and shoes.
- Flush with plenty of water for at least 15 minutes.
- Any frostbitten part should be covered with a sterile bandage without rubbing it.

In case of contact with eyes:

- Flush with plenty of water for at least 15 minutes. Get medical attention.
- Do not cool the injured person.

5. Fire Fighting Measures

Extinguishing media: Foam, carbon dioxide, dry chemical, and water spray.

Special fire fighting procedures:

- Do not extinguish a fire before sealing the leak, otherwise an explosive mixture with air may be caused.
- After the leak is sealed, extinguish a small scale fire with dry chemical or carbon dioxide, or a large scale fire with foam.
- For a small scale fire, use dry chemical or carbon dioxide.
- For a large scale fire, use foam or other extinguishing media intended for chemical industries.

Protection of fire fighting personnel:

Protective clothing, self-contained breathing apparatus and rubber boots.

6. Accidental Release Measures

- Ventilate
- Seal a leak when it can be done without risk.
- Stop a machine if in a dangerous area.
- Remove fire generating sources, inhibit smoke, put out open flames, and prevent electric apparatuses and/or switches that may otherwise cause sparking or arcing from operating.

7. Handling and Storage

Handling:

- Heat source, sparks and/or open flames are strictly prohibited (no igniting sources allowed).
- No igniting sources are allowed because flashing may be caused over a distance if evaporated.
- Do not inhale gases.
- Contact with eyes, skin, and clothing is to be avoided.
- Long or repetitive exposure is to be avoided.
- Complete washing is required after handling.
- Be sure to handle and store under well-ventilated conditions.
- Prevent containers from falling, tumbling, or receiving shock.

Storage:

- Store in a place away from heat sources, sparks, or open flame.
- Container temperature shall not exceed 40°C/104°F.
- Store under well-ventilated conditions.
- Prevent containers from falling, tumbling, or receiving shock.

8. Exposure Control and Personal Protection

Standard control concentration: not specified

Permissible concentration:

	Propane	Butane
ACGIH TLV	2500 ppm_TWA_	Max. 800 ppm
OSHA PEL	1000 ppm_TWA_	

Protective equipment:

- Respiratory protection - respiratory protective device
- Hand protection - protective gloves
- Eye protection - safety goggles

9. Physical and Chemical Properties

	Propane	Butane
Status	Gas (under atmospheric pressure) or liquid (in pressure vessel)	
Color	Clear and colorless	
Odor	Slight ether-like odor	
Boiling point	-42.04°C	-0.50°C
Melting point	-187.69°C	-138.4°C
Vapor pressure	0.476 (0°C) 0.810 (20°C)	0.104 (0°C) 0.203 (20°C)
Specific gravity	0.5005 (20°C)	0.579 (20°C)
Gas density	2.020 kg/m ³	2.599 kg/m ³
Liquid density	0.501 kg/L (20°C)	0.579 kg/L (20°C)
Flash point	-90°C	-76°C
Firing point	493°C	427°C
Explosive limits	2.2 - 9.5%	1.8 - 8.5%
Solubility	Slightly soluble in water	Insoluble in water

10. Stability and Reactivity

Heating/combustion:

- Extremely inflammable
- Explosive if mixed with air.

Contact with water:

- Not hazardous

Contact with air:

- The phase of the product left in a liquid state changes very quickly to gas.
- Releasing the product in a gaseous state generates a large amount of cold mist and explosive mixture, spreading extensively.
- The product in a vaporous state is heavier than air, moves crawling along the ground surface, and may cause remote backfiring.

Mixing and contacting:

- May heavily react to strong oxidant.

11. Toxicological Information

Acute toxicity: No data available

Local effect: No data available

Sensitization: No data available

Chronic toxicity/long-term toxicity: No data available

Carcinogenicity: No data available

Mutagenicity: No data available

Reproductive toxicity: No data available

Others:

Inhalation:

- Gas with low toxicity and a weak anesthetic effect.
- Quick transition to a gaseous state eliminates air (possibly causing choking hazard).
- Dizziness, nausea, drowsiness, muscle weakness, an excited condition, and unconsciousness

Skin contact:

- Contact with the product in a liquid state causes frostbite.
- Frostbitten parts discolor to white.

Eye contact:

- Contact with the product in a liquid state causes frostbite.

12. Ecological Information

Mobility: No data available

Persistence/degradability: No data available

Teratogenicity: No data available

Ecotoxicity, fish toxicity: No data available

13. Disposal Considerations

- Use it fully before disposal. (Emission to the air in the liquid state is prohibited.)
- If releasing the product to the air is inevitable, it should be performed little by little in a fireless and well-ventilated environment.
- Use an authorized subcontractor for disposing industrial waste.

14. Transport Information

UN Hazard Code: Class 2.1

UN No.: UN 1950

- Others:
- Prevent containers from falling, tumbling, or receiving shock.
 - Container temperature shall not exceed 40°C.
 - No igniting sources are allowed.
 - Delivery vehicles shall be equipped with warning signs, disaster prevention tools, and fire extinguishers.

15. Regulatory Information

N/A

16. Other Information

References:

- LP Gas Technology A to Z
- LP Gas Data Handbook by the Natural Sources Survey of Science and Technology Agency
- National Laboratory Animal Society Research Report 1979, Bethesda, MD, USA
- Occupational Health Journal (2001.7) by Japan Society for Occupational Health
- "TLV and Bels" 2001_ ACGIH
- IARC MONOGRAPHS ON THE EVALUATION OF THE CARCINOGENIC RISK OF CHEMICALS TO HUMANS VOLUME 33

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