

Safety Data Sheet

**Section 1: Identification of the Substance/Mixture and of the Company/Undertaking****1.1 Product identifier**

Product Name • Medal Polymer Solution H
Product Code MSDS No.: ME-2002-03647

1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified use(s) • Used to produce polymeric fiber for air separation membrane production.

1.3 Details of the supplier of the safety data sheet

Manufacturer • Air Liquide
2700 Post Oak Blvd.
Houston, TX 77056
United States
www.us.airliquide.com
sds@airliquide.com

Telephone (Technical) • 713-896-2896

Telephone (Technical) • 800-819-1704

1.4 Emergency telephone number

Manufacturer • 800-424-9300 - CHEMTREC
Manufacturer • +1 703-527-3887 - Outside United States

Section 2: Hazards Identification**EU/EEC**

According to Regulation (EC) No 1272/2008 (CLP)/REACH 1907/2006 [amended by 453/2010]
According to EU Directive 67/548/EEC (DSD) or 1999/45/EC (DPD)

2.1 Classification of the substance or mixture

CLP • Acute Toxicity Dermal 4 - H312
Acute Toxicity Inhalation 3 - H331
Germ Cell Mutagenicity 2 - H341
Reproductive Toxicity 1A - H360D

DSD/DPD • Harmful (Xn)
Toxic (T)
R20/21, R61, R68

2.2 Label Elements

CLP

DANGER



Hazard statements • H312 - Harmful in contact with skin

H331 - Toxic if inhaled
H341 - Suspected of causing genetic defects.
H360D - May damage the unborn child.

Precautionary statements

- Prevention**
- P201 - Obtain special instructions before use.
 - P202 - Do not handle until all safety precautions have been read and understood.
 - P261 - Avoid breathing mist/vapours/spray.
 - P264 - Wash thoroughly after handling.
 - P271 - Use only outdoors or in a well-ventilated area.
 - P280 - Wear protective gloves/protective clothing/eye protection/face protection.
 - P281 - Use personal protective equipment as required.
- Response**
- P304+P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
 - P321 - Specific treatment, see supplemental first aid information.
 - P311 - Call a POISON CENTER or doctor/physician.
 - P302+P352 - IF ON SKIN: Wash with plenty of soap and water.
 - P322 - Specific measures, see supplemental first aid information.
 - P312 - Call a POISON CENTER or doctor/physician if you feel unwell.
 - P363 - Wash contaminated clothing before reuse.
 - P308+P313 - IF exposed or concerned: Get medical advice/attention.
- Storage/Disposal**
- P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
 - P405 - Store locked up.
 - P501 - Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

DSD/DPD



- Risk phrases**
- R20/21 - Harmful by inhalation and in contact with skin.
 - R61 - May cause harm to the unborn child.
 - R68 - Possible risk of irreversible effects.
- Safety phrases**
- S36 - Wear suitable protective clothing.
 - S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
 - S53 - Avoid exposure - obtain special instructions before use.

2.3 Other Hazards

- CLP**
- According to Regulation (EC) No. 1272/2008 (CLP) this material is considered hazardous.
- DSD/DPD**
- According to European Directive 1999/45/EC this preparation is considered dangerous.

United States (US)

According to OSHA 29 CFR 1910.1200 HCS

2.1 Classification of the substance or mixture

- OSHA HCS 2012**
- Acute Toxicity Inhalation 3 - H331
 - Specific Target Organ Toxicity Single Exposure 3: Narcotic Effects - H336
 - Germ Cell Mutagenicity 2 - H341
 - Reproductive Toxicity 1A - H360
 - Specific Target Organ Toxicity Repeated Exposure 1 - H372

2.2 Label elements

OSHA HCS 2012

DANGER



- Hazard statements**
- Toxic if inhaled - H331
 - May cause drowsiness or dizziness - H336
 - Suspected of causing genetic defects. - H341
 - May damage fertility or the unborn child. - H360
 - Causes damage to organs - Liver through prolonged or repeated exposure - H372

Precautionary statements

- Prevention**
- Obtain special instructions before use. - P201
 - Do not handle until all safety precautions have been read and understood. - P202
 - Do not breathe mist/vapours/spray. - P260
 - Wash thoroughly after handling. - P264
 - Do not eat, drink or smoke when using this product. - P270
 - Use only outdoors or in a well-ventilated area. - P271
 - Wear protective gloves/protective clothing/eye protection/face protection. - P280
- Response**
- IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. - P304+P340
 - Specific treatment, see supplemental first aid information. - P321
 - Call a POISON CENTER or doctor/physician. - P311
 - IF exposed or concerned: Get medical advice/attention. - P308+P313
 - Get medical advice/attention if you feel unwell. - P314
- Storage/Disposal**
- Store in a well-ventilated place. Keep container tightly closed. - P403+P233
 - Store locked up. - P405
 - Dispose of content and/or container in accordance with local, regional, national, and/or international regulations. - P501

2.3 Other hazards

OSHA HCS2012

- Under United States Regulations (29 CFR 1910.1200 - Hazard Communication Standard), this product is considered hazardous.

Canada

According to WHMIS

2.1 Classification of the substance or mixture

WHMIS

- Other Toxic Effects - D2A
- Other Toxic Effects - D2B

2.2 Label elements

WHMIS



- Other Toxic Effects - D2A
- Other Toxic Effects - D2B

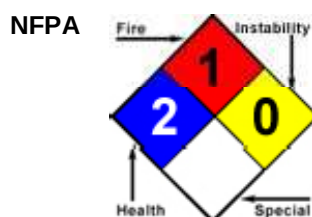
2.3 Other hazards

WHMIS

- In Canada, the product mentioned above is considered hazardous under the Workplace Hazardous Materials Information System (WHMIS).

2.4 Other information

- 30.1 percent of this product consists of an ingredient of unknown toxicity.



Section 3 - Composition/Information on Ingredients

3.1 Substances

- Material does not meet the criteria of a substance in accordance with Regulation (EC) No 1272/2008.

3.2 Mixtures

Composition					
Chemical Name	Identifiers	%	LD50/LC50	Classifications According to Regulation/Directive	Comments
Acetamide, N,N-dimethyl-	CAS:127-19-5 EC Number:204-826-4	60% TO 65%	Ingestion/Oral-Rat LD50 • 4300 mg/kg Inhalation-Rat LC50 • 2475 ppm 1 Hour(s) Skin-Rabbit LD50 • 2240 mg/kg	EU DSD/DPD: Annex VI, Table 3.2: Xn; R20/21 Repr.Cat.2; R61 EU CLP: Annex VI, Table 3.1: Repr. 1B, H360D, Acute Tox. 3, H331; Acute Tox. 4, H312 OSHA HCS 2012: Flam Liq 4; Repr. 2; STOT SE 3: Narc.; STOT RE 1 (Liver); Eye Irrit. 2B; Acute Tox 3 (inhl)	NDA
Nitric acid, lithium salt	CAS:7790-69-4 EINECS:232-218-9	5% TO 10%	NDA	EU DSD/DPD: Self Classified: O, R8 EU CLP: Self Classified: Ox. Liq. 3, H272 OSHA HCS 2012: Ox. Liq.3	NDA
Lithium chloride	CAS:7447-41-8 EC Number:231-212-3	< 5%	Ingestion/Oral-Rat LD50 • 526 mg/kg Skin-Rabbit LD50 • 1629 mg/kg	EU DSD/DPD: Self Classified: Xi R36/38; T, Repr. 1 R61; Muta. 3 R68; Xn R21/22 EU CLP: Self Classified: Repr. 1A, H360D; Muta. 2, H341; Eye Irrit. 2, H319; Skin Irrit. 2, H315; Acute Tox. 4, H312 ; Acute Tox. 4, H302 OSHA HCS 2012: Repr. 1A; Muta. 2; Eye Irrit. 2A; Skin Irrit. 2; Acute Tox. 4 (Orl, Skn)	NDA

See Section 16 for full text of H-statements and R-phrases.

Section 4 - First Aid Measures

4.1 Description of first aid measures

Inhalation

- Move victim to fresh air. Administer oxygen if breathing is difficult. Give artificial respiration if victim is not breathing.

Skin

- In case of contact with substance, immediately flush skin with running water for at least 20 minutes. Take off contaminated clothing and wash before reuse. If irritation develops and persists, get 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

- Do not use mouth-to-mouth method if victim ingested the substance.

4.2 Most important symptoms and effects, both acute and delayed

- Refer to Section 11 - Toxicological Information.

4.3 Indication of any immediate medical attention and special treatment needed

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 - Firefighting Measures

5.1 Extinguishing media

- Suitable Extinguishing Media**
- LARGE FIRE: Water spray, fog or regular foam.
SMALL FIRES: Dry chemical, CO₂, water spray or regular foam.

- Unsuitable Extinguishing Media**
- No data available.

5.2 Special hazards arising from the substance or mixture

- Unusual Fire and Explosion Hazards**
- Containers may explode when heated.
Some of these materials may burn, but none ignite readily.

- Hazardous Combustion Products**
- No data available.

5.3 Advice for firefighters

- 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.
Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection.
Wear positive pressure self-contained breathing apparatus (SCBA).

Section 6 - Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

- Personal Precautions**
- Do not walk through spilled material. Wear appropriate personal protective equipment, avoid direct contact. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate enclosed areas.
- Emergency Procedures**
- As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. Stay upwind. Keep out of low areas. Keep unauthorized personnel away. Ventilate closed spaces before entering.

6.2 Environmental precautions

- Avoid run off to waterways and sewers.

6.3 Methods and material for containment and cleaning up

- Containment/Clean-up Measures**
- Stop leak if you can do it without risk.
SMALL SPILLS: Take up with sand or other non-combustible absorbent material and place into containers for later disposal.
LARGE SPILLS: Dike far ahead of spill for later disposal.

6.4 Reference to other sections

- Refer to Section 8 - Exposure Controls/Personal Protection and Section 13 - Disposal Considerations.

Section 7 - Handling and Storage

7.1 Precautions for safe handling

- Handling**
- Use only with adequate ventilation. Wear appropriate personal protective equipment,

avoid direct contact. Do not breathe mist/vapours/spray. Avoid contact with skin, eyes, and clothing. Wash thoroughly with soap and water after handling and before eating, drinking, or using tobacco.

7.2 Conditions for safe storage, including any incompatibilities

Storage

- Store in a well-ventilated place. Keep container tightly closed.

7.3 Specific end use(s)

- Refer to Section 1.2 - Relevant identified uses.

Section 8 - Exposure Controls/Personal Protection

8.1 Control parameters

Exposure Limits/Guidelines						
	Result	ACGIH	Canada Ontario	Canada Quebec	China	France
Acetamide, N,N-dimethyl- (127-19-5)	STELs	Not established	Not established	Not established	40 mg/m ³ STEL	10 ppm STEL [VLCT] (restrictive limit); 36 mg/m ³ STEL [VLCT] (restrictive limit)
	TWAs	10 ppm TWA	10 ppm TWA	10 ppm TWAEV; 36 mg/m ³ TWAEV	20 mg/m ³ TWA	2 ppm TWA [VME] (restrictive limit); 7.2 mg/m ³ TWA [VME] (restrictive limit)
Exposure Limits/Guidelines(Con't.)						
	Result	Germany DFG	Germany TRGS	Ireland	Israel	Italy
Acetamide, N,N-dimethyl- (127-19-5)	STELs	Not established	Not established	20 ppm STEL; 72 mg/m ³ STEL	Not established	20 ppm STEL; 72 mg/m ³ STEL
	TWAs	Not established	10 ppm TWA AGW (The risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed, exposure factor 2); 36 mg/m ³ TWA AGW (The risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed, exposure factor 2)	10 ppm TWA; 36 mg/m ³ TWA	10 ppm TWA	10 ppm TWA; 36 mg/m ³ TWA
	Ceilings	20 ppm Peak; 72 mg/m ³ Peak	Not established	Not established	Not established	Not established
	MAKs	10 ppm TWA MAK; 36 mg/m ³ TWA MAK	Not established	Not established	Not established	Not established
Exposure Limits/Guidelines(Con't.)						
	Result	NIOSH	OSHA	OSHA Vacated	Portugal	Spain
	TWAs	10 ppm TWA; 35 mg/m ³ TWA	10 ppm TWA; 35 mg/m ³ TWA	10 ppm TWA; 35 mg/m ³ TWA	10 ppm TWA [VLE-MP]	10 ppm TWA [VLA-ED] (indicative limit value); 36 mg/m ³ TWA [VLA-ED]

Acetamide, N,N-dimethyl- (127-19-5)	STELs	Not established	Not established	Not established	Not established	20 ppm STEL [VLA-EC]; 72 mg/m ³ STEL [VLA-EC]
	Biological Limit Values (BLV)	Not established	Not established	Not established	Not established	30 mg/g Creatinine urine end of workweek N-Methylacetamide (1)
Exposure Limits/Guidelines (Con't.)						
		Result		Sweden		
Acetamide, N,N-dimethyl- (127-19-5)		STELs		20 ppm STV; 70 mg/m ³ STV		
		TWAs		10 ppm LLV; 35 mg/m ³ LLV		

Exposure Control Notations

Portugal

•Acetamide, N,N-dimethyl- (127-19-5): **Carcinogens:** (A4 - Not Classifiable as a Human Carcinogen) | **Skin:** (skin - potential for cutaneous exposure)

Italy

•Acetamide, N,N-dimethyl- (127-19-5): **Skin:** (skin - potential for cutaneous absorption)

France

•Acetamide, N,N-dimethyl- (127-19-5): **Reproductive Toxins:** (Reproductive Toxin category 2)

Ireland

•Acetamide, N,N-dimethyl- (127-19-5): **Substances with Potential Chronic Health Effects:** (Repr1B) | **Skin:** (Potential for cutaneous absorption)

Spain

•Acetamide, N,N-dimethyl- (127-19-5): **Reproductive Toxins:** (known human reproductive toxin with classification from animal data) | **Skin:** (skin - potential for cutaneous exposure)

Sweden

•Acetamide, N,N-dimethyl- (127-19-5): **Reproductive Toxins:** (Causes reproductive disturbances) | **Skin:** (Skin notation)

Germany TRGS

•Acetamide, N,N-dimethyl- (127-19-5): **Developmental Toxins:** (Category 2) | **Reproductive Toxins:** (Category 3) | **Skin:** (skin notation) | **Skin:** (skin notation)

Germany DFG

•Acetamide, N,N-dimethyl- (127-19-5): **Pregnancy:** (no risk to embryo/fetus if exposure limits adhered to) | **Skin:** (skin notation)

8.2 Exposure controls

Engineering Measures/Controls

- Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Personal Protective Equipment

Respiratory

- In case of insufficient ventilation, wear suitable respiratory equipment. Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or symptoms are experienced.

Eye/Face

- Wear chemical splash safety goggles.

Skin/Body

- Wear appropriate gloves.

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.

Key to abbreviations

ACGIH = American Conference of Governmental Industrial Hygiene

OSHA = Occupational Safety and Health Administration

LLV = Limit Level Value is the exposure limit for 8-hour work day

MAK = Maximale Arbeitsplatz Konzentration is the maximum permissible concentration

NIOSH = National Institute of Occupational Safety and Health

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

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

Section 9 - Physical and Chemical Properties

9.1 Information on Physical and Chemical Properties

Material Description			
Physical Form	Liquid	Appearance/Description	Brown viscous liquid with a faint ammoniacal odor.
Color	Brown	Odor	Faint ammoniacal odor.
Odor Threshold	Data lacking		
General Properties			
Boiling Point	165 C(329 F)	Melting Point	Data lacking
Decomposition Temperature	Data lacking	pH	6 to 7
Specific Gravity/Relative Density	1 Water=1 @ 25 C(77 F)	Water Solubility	Data lacking
Solvent Solubility	Data lacking	Viscosity	Data lacking
Explosive Properties	Data lacking	Oxidizing Properties:	Data lacking
Volatility			
Vapor Pressure	Data lacking	Vapor Density	Data lacking
Evaporation Rate	Data lacking		
Flammability			
Flash Point	100 C(212 F) OC (Open Cup)	UEL	11.5 %
LEL	2 %	Autoignition	420 C(788 F)
Flammability (solid, gas)	Data lacking		
Environmental			
Octanol/Water Partition coefficient	Data lacking		

9.2 Other Information

- No additional physical and chemical parameters noted.

Section 10: Stability and Reactivity

10.1 Reactivity

- No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

- Stable under normal temperatures and pressures.

10.3 Possibility of hazardous reactions

- Hazardous polymerization will not occur.

10.4 Conditions to avoid

- No data available.

10.5 Incompatible materials

- No data available.

10.6 Hazardous decomposition products

- No data available.

Section 11 - Toxicological Information

11.1 Information on toxicological effects

Components		
Acetamide, N,N-dimethyl - (60% TO 65%)	127-19-5	Acute Toxicity: Ingestion/Oral-Rat LD50 • 4300 mg/kg; Inhalation-Rat LC50 • 2475 ppm 1 Hour(s); <i>Nutritional and Gross Metabolic:</i>Gross Metabolite Changes:Weight loss or decreased weight gain; Skin-Rabbit LD50 • 2240 mg/kg; <i>Skin and Appendages:</i>After topical exposure:Primary irritation; Irritation: Eye-Rabbit • 100 mg • Mild irritation; Skin-Rabbit • 10 mg 24 Hour(s)-Open • Mild irritation; Reproductive: Ingestion/Oral-Rabbit TDLo • 3900 mg/kg (6-18D preg); <i>Reproductive Effects:</i>Specific Developmental Abnormalities:Eye, ear; <i>Reproductive Effects:</i>Specific Developmental Abnormalities:Craniofacial (including nose and tongue); <i>Reproductive Effects:</i>Specific Developmental Abnormalities:Musculoskeletal system; Ingestion/Oral-Rabbit TDLo • 3900 mg/kg (6-18D preg); <i>Reproductive Effects:</i>Effects on Fertility:Post-implantation mortality; <i>Reproductive Effects:</i>Effects on Embryo or Fetus:Fetotoxicity (except death, e.g., stunted fetus); Ingestion/Oral-Rat TDLo • 5600 mg/kg (6-19D preg); <i>Reproductive Effects:</i>Effects on Fertility:Post-implantation mortality; <i>Reproductive Effects:</i>Effects on Embryo or Fetus:Fetal death; Ingestion/Oral-Rat TDLo • 2240 mg/kg (6-19D preg); <i>Reproductive Effects:</i>Maternal Effects:Other effects; <i>Reproductive Effects:</i>Effects on Embryo or Fetus:Other effects on embryo; Ingestion/Oral-Rat TDLo • 5600 mg/kg (6-19D preg); <i>Reproductive Effects:</i>Effects on Fertility:Post-implantation mortality; <i>Reproductive Effects:</i>Specific Developmental Abnormalities:Craniofacial (including nose and tongue); <i>Reproductive Effects:</i>Specific Developmental Abnormalities:Cardiovascular (circulatory) system; Ingestion/Oral-Rat TDLo • 6 g/kg (7-21D preg); <i>Reproductive Effects:</i>Specific Developmental Abnormalities:Central nervous system; <i>Reproductive Effects:</i>Specific Developmental Abnormalities:Musculoskeletal system; <i>Reproductive Effects:</i>Specific Developmental Abnormalities:Cardiovascular (circulatory) system; Ingestion/Oral-Rat TDLo • 5600 mg/kg (6-19D preg); <i>Reproductive Effects:</i>Effects on Fertility:Post-implantation mortality; <i>Reproductive Effects:</i>Effects on Embryo or Fetus:Fetotoxicity (except death, e.g., stunted fetus); <i>Reproductive Effects:</i>Specific Developmental Abnormalities:Craniofacial (including nose and tongue); Ingestion/Oral-Rat TDLo • 5600 mg/kg (6-19D preg); <i>Reproductive Effects:</i>Specific Developmental Abnormalities:Musculoskeletal system; <i>Reproductive Effects:</i>Specific Developmental Abnormalities:Cardiovascular (circulatory) system; <i>Reproductive Effects:</i>Specific Developmental Abnormalities:Homeostasis; Inhalation-Rabbit TCLo • 570 ppm (7-19D preg); <i>Reproductive Effects:</i>Effects on Embryo or Fetus:Other effects on embryo; Inhalation-Rat TCLo • 288 ppm 6 Hour(s)(10D male); <i>Reproductive Effects:</i>Paternal Effects:Testes, epididymis, sperm duct; Inhalation-Rat TCLo • 281 ppm 6 Hour(s)(6-15D preg); <i>Reproductive Effects:</i>Effects on Embryo or Fetus:Fetotoxicity (except death, e.g., stunted fetus); Inhalation-Rat TCLo • 282 ppm 6 Hour(s)(6-15D preg); <i>Reproductive Effects:</i>Effects on Embryo or Fetus:Fetotoxicity (except death, e.g., stunted fetus)
Lithium chloride (< 5%)	7447-41-8	Acute Toxicity: Ingestion/Oral-Rat LD50 • 1530 mg/kg; <i>Behavioral:</i>Tetany; <i>Lungs, Thorax, or Respiration:</i>Respiratory depression; <i>Gastrointestinal:</i>Hypermotility, diarrhea; Skin-Rabbit LD50 • 1629 mg/kg; <i>Skin and Appendages:</i>After topical exposure:Primary irritation; Irritation: Eye-Rabbit • 100 mg 24 Hour(s) • Moderate irritation; Skin-Rabbit • 500 mg 24 Hour(s) • Severe irritation; Mutagen: Sister chromatid exchange • Ingestion/Oral-Mouse • 21 mg/kg 3 Day(s)-Intermittent; Cytogenetic analysis • Ingestion/Oral-Mouse • 212 µg/kg 3 Day(s)-Intermittent; Reproductive: Ingestion/Oral-Mouse TDLo • 475 mg/kg (7D male/7D pre-21D post); <i>Reproductive Effects:</i>Effects on Newborn:Growth statistics (e.g., reduced weight gain); <i>Reproductive Effects:</i>Effects on Newborn:Biochemical and metabolic; <i>Reproductive Effects:</i>Effects on Newborn:Physical; Ingestion/Oral-Mouse TDLo • 66 g/kg (1-21D preg/21D post); <i>Reproductive Effects:</i>Specific Developmental Abnormalities:Central nervous system; <i>Reproductive Effects:</i>Effects on Newborn:Biochemical and metabolic; <i>Reproductive Effects:</i>Effects on Newborn:Physical

GHS Properties	Classification
Acute toxicity	EU/CLP • Acute Toxicity - Dermal 4; Acute Toxicity - Inhalation 3 OSHA HCS 2012 • Acute Toxicity - Inhalation 3
Aspiration Hazard	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met
Carcinogenicity	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met

Germ Cell Mutagenicity	EU/CLP • Germ Cell Mutagenicity 2 OSHA HCS 2012 • Germ Cell Mutagenicity 2
Skin corrosion/Irritation	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met
Skin sensitization	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met
STOT-RE	EU/CLP • Classification criteria not met OSHA HCS 2012 • Specific Target Organ Toxicity Repeated Exposure 1
STOT-SE	EU/CLP • Classification criteria not met OSHA HCS 2012 • Specific Target Organ Toxicity Single Exposure 3: Narcotic Effects
Toxicity for Reproduction	EU/CLP • Toxic to Reproduction 1A OSHA HCS 2012 • Toxic to Reproduction 1A
Respiratory sensitization	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met
Serious eye damage/Irritation	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met

Potential Health Effects

Inhalation

Acute (Immediate)

- Toxic if inhaled. May affect the central nervous system. Symptoms may include dizziness, drowsiness, lethargy, coma and death.

Chronic (Delayed)

- No data available.

Skin

Acute (Immediate)

- Harmful in contact with skin.

Chronic (Delayed)

- No data available.

Eye

Acute (Immediate)

- May cause mild irritation.

Chronic (Delayed)

- No data available.

Ingestion

Acute (Immediate)

- May cause irritation.

Chronic (Delayed)

- No data available.

Other

Chronic (Delayed)

- Repeated and prolonged exposure may cause liver damage.

Reproductive Effects

- Embryotoxicity in animals has been reported.

Key to abbreviations

LC = Lethal Concentration

SEV = Severe

LD = Lethal Dose

TC = Toxic Concentration

MLD = Mild

TD = Toxic Dose

MOD = Moderate

Section 12 - Ecological Information

12.1 Toxicity

- Material data lacking.

12.2 Persistence and degradability

- Material data lacking.

12.3 Bioaccumulative potential

- Material data lacking.

12.4 Mobility in Soil

- Material data lacking.

12.5 Results of PBT and vPvB assessment

- No PBT and vPvB assessment has been conducted.

12.6 Other adverse effects

- No studies have been found.

Section 13 - Disposal Considerations

13.1 Waste treatment methods

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

	14.1 UN number	14.2 UN proper shipping name	14.3 Transport hazard class(es)	14.4 Packing group	14.5 Environmental hazards
DOT	NDA	Not Regulated	NDA	NDA	NDA
TDG	NDA	Not Regulated	NDA	NDA	NDA
IMO/IMDG	NDA	Not Regulated	NDA	NDA	NDA
IATA/ICAO	NDA	Not Regulated	NDA	NDA	NDA

14.6 Special precautions for user

- None known.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

- Not relevant.

Section 15 - Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

SARA Hazard Classifications

- Acute, Chronic

State Right To Know				
Component	CAS	MA	NJ	PA
Acetamide, N,N- dimethyl-	127-19-5	Yes	Yes	Yes
Lithium chloride	7447-41-8	No	No	No
Nitric acid, lithium salt	7790-69-4	No	Yes	No

Inventory						
Component	CAS	CanadaDSL	Canada NDSL	China	EUEINECS	EU ELNICS
Acetamide, N,N- dimethyl-	127-19-5	Yes	No	Yes	Yes	No
Lithium chloride	7447-41-8	Yes	No	Yes	Yes	No
Nitric acid, lithium salt	7790-69-4	Yes	No	Yes	Yes	No

Inventory (Con't.)		
Component	CAS	TSCA
Acetamide, N,N- dimethyl-	127-19-5	Yes
Lithium chloride	7447-41-8	Yes
Nitric acid, lithium salt	7790-69-4	Yes

Canada

Labor

Canada - WHMIS - Classifications of Substances

• Lithium chloride	7447-41-8	Not Listed
• Nitric acid, lithium salt	7790-69-4	C
• Acetamide, N,N-dimethyl-	127-19-5	B3, D2B

Canada - WHMIS - Ingredient Disclosure List

• Lithium chloride	7447-41-8	Not Listed
• Nitric acid, lithium salt	7790-69-4	Not Listed
• Acetamide, N,N-dimethyl-	127-19-5	1 %

Environment

Canada - CEPA - Priority Substances List

• Lithium chloride	7447-41-8	Not Listed
• Nitric acid, lithium salt	7790-69-4	Not Listed
• Acetamide, N,N-dimethyl-	127-19-5	Not Listed

China

Environment

China - Ozone Depleting Substances - First Schedule

• Lithium chloride	7447-41-8	Not Listed
• Nitric acid, lithium salt	7790-69-4	Not Listed
• Acetamide, N,N-dimethyl-	127-19-5	Not Listed

China - Ozone Depleting Substances - Second Schedule

• Lithium chloride	7447-41-8	Not Listed
• Nitric acid, lithium salt	7790-69-4	Not Listed
• Acetamide, N,N-dimethyl-	127-19-5	Not Listed

China - Ozone Depleting Substances - Third Schedule

• Lithium chloride	7447-41-8	Not Listed
• Nitric acid, lithium salt	7790-69-4	Not Listed
• Acetamide, N,N-dimethyl-	127-19-5	Not Listed

Other**China - Annex I & II - Controlled Chemicals Lists**

• Lithium chloride	7447-41-8	Not Listed
• Nitric acid, lithium salt	7790-69-4	Not Listed
• Acetamide, N,N-dimethyl-	127-19-5	Not Listed

China - Dangerous Goods List

• Lithium chloride	7447-41-8	Not Listed
• Nitric acid, lithium salt	7790-69-4	
• Acetamide, N,N-dimethyl-	127-19-5	Not Listed

China - Export Control List - Part I Chemicals

• Lithium chloride	7447-41-8	Not Listed
• Nitric acid, lithium salt	7790-69-4	Not Listed
• Acetamide, N,N-dimethyl-	127-19-5	Not Listed

Europe**Other****EU - CLP (1272/2008) - Annex VI - Table 3.2 - Classification**

• Lithium chloride	7447-41-8	Not Listed
• Nitric acid, lithium salt	7790-69-4	Not Listed
• Acetamide, N,N-dimethyl-	127-19-5	Xn; R20/21 Repr.Cat.2; R61

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Concentration Limits

• Lithium chloride	7447-41-8	Not Listed
• Nitric acid, lithium salt	7790-69-4	Not Listed
• Acetamide, N,N-dimethyl-	127-19-5	5%≤C: Repr.Cat.2; R:61

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Labelling

• Lithium chloride	7447-41-8	Not Listed
• Nitric acid, lithium salt	7790-69-4	Not Listed
• Acetamide, N,N-dimethyl-	127-19-5	T R:61-20/21 S:53-45

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Notes - Substances and Preparations

• Lithium chloride	7447-41-8	Not Listed
• Nitric acid, lithium salt	7790-69-4	Not Listed
• Acetamide, N,N-dimethyl-	127-19-5	E

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Safety Phrases

• Lithium chloride	7447-41-8	Not Listed
• Nitric acid, lithium salt	7790-69-4	Not Listed
• Acetamide, N,N-dimethyl-	127-19-5	S:53-45

Germany**Environment****Germany - TA Luft - Types and Classes**

• Lithium chloride	7447-41-8	Not Listed
• Nitric acid, lithium salt	7790-69-4	Not Listed
• Acetamide, N,N-dimethyl-	127-19-5	Not Listed

Germany - Water Classification (VwVwS) - Annex 1

• Lithium chloride	7447-41-8	Not Listed
• Nitric acid, lithium salt	7790-69-4	Not Listed

- Acetamide, N,N-dimethyl-

127-19-5

Not Listed

Germany - Water Classification (VwVwS) - Annex 2 - Water Hazard Classes

- Lithium chloride
- Nitric acid, lithium salt

7447-41-8

Not Listed

7790-69-4

Not Listed

- Acetamide, N,N-dimethyl-

127-19-5

ID Number 1289, hazard class 1 - low hazard to waters

Germany - Water Classification (VwVwS) - Annex 3

- Lithium chloride

7447-41-8

ID Number 2440, hazard class 1 - low hazard to waters

- Nitric acid, lithium salt

7790-69-4

ID Number 7389, hazard class 1 - low hazard to waters

- Acetamide, N,N-dimethyl-

127-19-5

Not Listed

Other**Germany - Specifically Regulated Chemicals in TRGS**

- Lithium chloride
- Nitric acid, lithium salt
- Acetamide, N,N-dimethyl-

7447-41-8

Not Listed

7790-69-4

Not Listed

127-19-5

Not Listed

Portugal**Other****Portugal - Prohibited Substances**

- Lithium chloride
- Nitric acid, lithium salt
- Acetamide, N,N-dimethyl-

7447-41-8

Not Listed

7790-69-4

Not Listed

127-19-5

Not Listed

United Kingdom**Environment****United Kingdom - Pollution Inventory - Schedule 1 - Thresholds for Releases to Air**

- Lithium chloride
- Nitric acid, lithium salt
- Acetamide, N,N-dimethyl-

7447-41-8

Not Listed

7790-69-4

Not Listed

127-19-5

Not Listed

Other**United Kingdom - Workplace Exposure Limits (WELs) - Substances in Review**

- Lithium chloride
- Nitric acid, lithium salt
- Acetamide, N,N-dimethyl-

7447-41-8

Not Listed

7790-69-4

Not Listed

127-19-5

Not Listed

United Kingdom - List of Dangerous Substances in Water

- Lithium chloride
- Nitric acid, lithium salt
- Acetamide, N,N-dimethyl-

7447-41-8

Not Listed

7790-69-4

Not Listed

127-19-5

Not Listed

United States**Labor****U.S. - OSHA - Process Safety Management - Highly Hazardous Chemicals**

- Lithium chloride
- Nitric acid, lithium salt
- Acetamide, N,N-dimethyl-

7447-41-8

Not Listed

7790-69-4

Not Listed

127-19-5

Not Listed

U.S. - OSHA - Specifically Regulated Chemicals

• Lithium chloride	7447-41-8	Not Listed
• Nitric acid, lithium salt	7790-69-4	Not Listed
• Acetamide, N,N-dimethyl-	127-19-5	Not Listed

Environment**U.S. - CAA (Clean Air Act) - 1990 Hazardous Air Pollutants**

• Lithium chloride	7447-41-8	Not Listed
• Nitric acid, lithium salt	7790-69-4	Not Listed
• Acetamide, N,N-dimethyl-	127-19-5	Not Listed

U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities

• Lithium chloride	7447-41-8	Not Listed
• Nitric acid, lithium salt	7790-69-4	Not Listed
• Acetamide, N,N-dimethyl-	127-19-5	Not Listed

U.S. - CERCLA/SARA - Radionuclides and Their Reportable Quantities

• Lithium chloride	7447-41-8	Not Listed
• Nitric acid, lithium salt	7790-69-4	Not Listed
• Acetamide, N,N-dimethyl-	127-19-5	Not Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances EPCRA RQs

• Lithium chloride	7447-41-8	Not Listed
• Nitric acid, lithium salt	7790-69-4	Not Listed
• Acetamide, N,N-dimethyl-	127-19-5	Not Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances TPQs

• Lithium chloride	7447-41-8	Not Listed
• Nitric acid, lithium salt	7790-69-4	Not Listed
• Acetamide, N,N-dimethyl-	127-19-5	Not Listed

U.S. - CERCLA/SARA - Section 313 - Emission Reporting

• Lithium chloride	7447-41-8	Not Listed
• Nitric acid, lithium salt	7790-69-4	Not Listed
• Acetamide, N,N-dimethyl-	127-19-5	Not Listed

U.S. - CERCLA/SARA - Section 313 - PBT Chemical Listing

• Lithium chloride	7447-41-8	Not Listed
• Nitric acid, lithium salt	7790-69-4	Not Listed
• Acetamide, N,N-dimethyl-	127-19-5	Not Listed

U.S. - EPA - Designated Generic Categories - Nitrate Compounds

• Lithium chloride	7447-41-8	Not Listed
• Nitric acid, lithium salt	7790-69-4	RR-03804-0
• Acetamide, N,N-dimethyl-	127-19-5	Not Listed

United States -California**Environment****U.S. - California - Proposition 65 - Carcinogens List**

• Lithium chloride	7447-41-8	Not Listed
• Nitric acid, lithium salt	7790-69-4	Not Listed
• Acetamide, N,N-dimethyl-	127-19-5	Not Listed

U.S. - California - Proposition 65 - Developmental Toxicity

• Lithium chloride	7447-41-8	Not Listed
• Nitric acid, lithium salt	7790-69-4	Not Listed
• Acetamide, N,N-dimethyl-	127-19-5	developmental toxicity, initial date 5/21/10
U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)		
• Lithium chloride	7447-41-8	Not Listed
• Nitric acid, lithium salt	7790-69-4	Not Listed
• Acetamide, N,N-dimethyl-	127-19-5	Not Listed
U.S. - California - Proposition 65 - No Significant Risk Levels (NSRL)		
• Lithium chloride	7447-41-8	Not Listed
• Nitric acid, lithium salt	7790-69-4	Not Listed
• Acetamide, N,N-dimethyl-	127-19-5	Not Listed
U.S. - California - Proposition 65 - Reproductive Toxicity - Female		
• Lithium chloride	7447-41-8	Not Listed
• Nitric acid, lithium salt	7790-69-4	Not Listed
• Acetamide, N,N-dimethyl-	127-19-5	Not Listed
U.S. - California - Proposition 65 - Reproductive Toxicity - Male		
• Lithium chloride	7447-41-8	Not Listed
• Nitric acid, lithium salt	7790-69-4	Not Listed
• Acetamide, N,N-dimethyl-	127-19-5	Not Listed

United States - Pennsylvania

Labor

U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List		
• Lithium chloride	7447-41-8	Not Listed
• Nitric acid, lithium salt	7790-69-4	Not Listed
• Acetamide, N,N-dimethyl-	127-19-5	Not Listed
U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances		
• Lithium chloride	7447-41-8	Not Listed
• Nitric acid, lithium salt	7790-69-4	Not Listed
• Acetamide, N,N-dimethyl-	127-19-5	Not Listed

15.2 Chemical Safety Assessment

- No Chemical Safety Assessment has been carried out.

15.3 Other Information

- WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

Section 16 - Other Information

Relevant Phrases (code & full text)

- H272 - May intensify fire; oxidizer
- H302 - Harmful if swallowed
- H315 - Causes skin irritation
- H319 - Causes serious eye irritation

Last Revision Date

- 03/February/2015

Preparation Date

- 18/June/2014

Disclaimer/Statement of Liability

- To the best of Air Liquide's knowledge, the information contained herein is reliable and accurate as of this date; however, accuracy, suitability or completeness are not guaranteed and no warranties of any type, either express or implied, are provided. The information contained herein relates only to this specific product. If this gas mixture is combined with other materials, all component properties must be considered. Data may be changed from time to time. Be sure to consult the latest edition.

Key to abbreviations

NDA = No Data Available
