

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Mixture
 Product name : 39 Components in Nitrogen
 Product code : SG-2040-02812

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

Use of the substance/mixture : Test gas/Calibration gas.

1.3. Details of the supplier of the safety data sheet

Air Liquide
 2700 Post Oak Boulevard
 Houston, TX 77056 - USA
 T 1-800-819-1704
www.us.airliquide.com

1.4. Emergency telephone number

Emergency number : CHEMTREC: 1-800-424-9300

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Compressed gas H280
 Ozone 1 H420

Full text of H-phrases: see section 16

2.2. Label elements

GHS-US labeling

Hazard pictograms (GHS-US) :



GHS04

GHS07

Signal word (GHS-US) :

Warning

Hazard statements (GHS-US) :

H280 - Contains gas under pressure; may explode if heated
 H420 - Harms public health and the environment by destroying ozone in the upper atmosphere
 OSHA-H01 - May displace oxygen and cause rapid suffocation

Precautionary statements (GHS-US) :

P202 - Do not handle until all safety precautions have been read and understood
 P271 - Use only outdoors or in a well-ventilated area
 P280 - Wear eye protection, face protection, protective gloves, protective clothing
 P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing
 P308+P313 - If exposed or concerned: Get medical advice/attention
 P403 - Store in a well-ventilated place
 P501 - Dispose of contents/container in accordance with local/regional/national/international regulations
 CGA-PG02 - Protect from sunlight when ambient temperature exceeds 52°C (125°F)
 CGA-PG05 - Use a back flow preventive device in the piping
 CGA-PG06 - Close valve after each use and when empty
 CGA-PG10 - Use only with equipment rated for cylinder pressure
 CGA-PG14 - Approach suspected leak area with caution
 CGA-PG21 - Open valve slowly

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

39 Components in Nitrogen

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

39 Components in Nitrogen

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Name	Product identifier	%	GHS-US classification
Nitrogen	(CAS No) 7727-37-9	99.9025 - 99.99961	Compressed gas, H280
1,2-DICHLOROETHYLENE (CIS)	(CAS No) 156-59-2	0.00001 - 0.0025	Flam. Liq. 2, H225 Acute Tox. 4 (Inhalation:gas), H332 Aquatic Chronic 3, H412
carbon tetrachloride, tetrachloromethane	(CAS No) 56-23-5	0.00001 - 0.0025	Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation), H331 Carc. 2, H351 STOT RE 1, H372 Aquatic Chronic 3, H412 Ozone 1, H420
1,3-DICHLOROBENZENE	(CAS No) 541-73-1	0.00001 - 0.0025	Acute Tox. 4 (Oral), H302 Acute Tox. 3 (Inhalation:gas), H331 Aquatic Chronic 2, H411
1,1,2-TRICHLOROTRIFLUOROETHANE	(CAS No) 76-13-1	0.00001 - 0.0025	Eye Irrit. 2A, H319 Aquatic Chronic 2, H411 Ozone 1, H420
Dichlorodifluoromethane (R12)	(CAS No) 75-71-8	0.00001 - 0.0025	Liquefied gas, H280 Ozone 1, H420
Trichlorofluoromethane	(CAS No) 75-69-4	0.00001 - 0.0025	Compressed gas, H280
Ethylbenzene	(CAS No) 100-41-4	0.00001 - 0.0025	Flam. Liq. 2, H225 Acute Tox. 4 (Inhalation:vapour), H332 Carc. 2, H351 STOT RE 2, H373 Asp. Tox. 1, H304
m-xylene	(CAS No) 108-38-3	0.00001 - 0.0025	Flam. Liq. 3, H226 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation), H332 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Asp. Tox. 1, H304
1,1-dichloroethane	(CAS No) 75-34-3	0.00001 - 0.0025	Flam. Liq. 2, H225 Acute Tox. 4 (Oral), H302 Eye Irrit. 2A, H319 STOT SE 3, H335 Aquatic Chronic 3, H412
STYRENE	(CAS No) 100-42-5	0.00001 - 0.0025	Flam. Liq. 3, H226 Acute Tox. 4 (Inhalation:gas), H332 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Repr. 2, H361 STOT RE 1, H372
p-Xylene	(CAS No) 106-42-3	0.00001 - 0.0025	Flam. Liq. 3, H226 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation:vapour), H332 Skin Irrit. 2, H315 Eye Irrit. 2A, H319
1,1-DICHLOROETHYLENE	(CAS No) 75-35-4	0.00001 - 0.0025	Flam. Liq. 1, H224 Acute Tox. 4 (Inhalation:gas), H332 Carc. 2, H351
1,3-DICHLOROPROPENE (CIS)	(CAS No) 10061-01-5	0.00001 - 0.0025	Flam. Liq. 3, H226 Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 4 (Inhalation), H332 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Skin Sens. 1, H317 STOT SE 3, H335 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

39 Components in Nitrogen

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Name	Product identifier	%	GHS-US classification
1,2-DIBROMOETHANE	(CAS No) 106-93-4	0.00001 - 0.0025	Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation:gas), H331 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Carc. 1B, H350 STOT SE 3, H335 Aquatic Chronic 2, H411
1,4-DICHLOROBENZENE	(CAS No) 106-46-7	0.00001 - 0.0025	Acute Tox. 3 (Inhalation:gas), H331 Eye Irrit. 2A, H319 Carc. 2, H351 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
1,3-DICHLOROPROPENE (TRANS)	(CAS No) 10061-02-6	0.00001 - 0.0025	Flam. Liq. 3, H226 Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 4 (Inhalation:gas), H332 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Skin Sens. 1, H317 Carc. 2, H351 STOT SE 3, H335 Asp. Tox. 1, H304
1,2-dichloroethane, ethylene dichloride	(CAS No) 107-06-2	0.00001 - 0.0025	Flam. Liq. 2, H225 Acute Tox. 4 (Oral), H302 Acute Tox. 3 (Inhalation), H331 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Carc. 1B, H350 STOT SE 3, H335
Chloromethane (R40)	(CAS No) 74-87-3	0.00001 - 0.0025	Flam. Gas 1, H220 Liquefied gas, H280 Acute Tox. 4 (Inhalation:gas), H332 Carc. 2, H351 STOT RE 2, H373
Chloroethane	(CAS No) 75-00-3	0.00001 - 0.0025	Flam. Gas 1, H220 Carc. 2, H351 Liquefied gas, H280 Aquatic Chronic 3, H412
Vinyl chloride	(CAS No) 75-01-4	0.00001 - 0.0025	Flam. Gas 1, H220 Liquefied gas, H280 Carc. 1A, H350 STOT RE 2, H373
Toluene	(CAS No) 108-88-3	0.00001 - 0.0025	Flam. Liq. 2, H225 Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Inhalation:vapour), H332 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Repr. 2, H361 STOT SE 3, H336 STOT RE 2, H373 Asp. Tox. 1, H304
Chloroform	(CAS No) 67-66-3	0.00001 - 0.0025	Acute Tox. 4 (Inhalation:gas), H332 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Carc. 2, H351 Repr. 2, H361 STOT RE 1, H372
Benzene	(CAS No) 71-43-2	0.00001 - 0.0025	Flam. Liq. 2, H225 Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Inhalation), H332 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Muta. 1B, H340 Carc. 1A, H350 STOT RE 1, H372 Asp. Tox. 1, H304
1,1,1-trichloroethane	(CAS No) 71-55-6	0.00001 - 0.0025	Acute Tox. 4 (Inhalation), H332 Ozone 1, H420

39 Components in Nitrogen

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Name	Product identifier	%	GHS-US classification
1,1,2-trichloroethane	(CAS No) 79-00-5	0.00001 - 0.0025	Carc. 2, H351 Acute Tox. 4 (Inhalation), H332 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Oral), H302
Chlorobenzene	(CAS No) 108-90-7	0.00001 - 0.0025	Flam. Liq. 3, H226 Acute Tox. 4 (Inhalation), H332 Aquatic Chronic 2, H411
TRICHLOROETHYLENE	(CAS No) 79-01-6	0.00001 - 0.0025	Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Muta. 2, H341 Carc. 1B, H350 STOT SE 3, H336 Aquatic Chronic 3, H412
O-XYLENE	(CAS No) 95-47-6	0.00001 - 0.0025	Flam. Liq. 3, H226 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation), H332 Skin Irrit. 2, H315
1,2,4-TRICHLOROBENZENE	(CAS No) 120-82-1	0.00001 - 0.0025	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
1,2,4-TRIMETHYLBENZENE	(CAS No) 95-63-6	0.00001 - 0.0025	Flam. Liq. 3, H226 Acute Tox. 4 (Inhalation:gas), H332 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT SE 3, H335 Aquatic Chronic 2, H411
TETRACHLOROETHYLENE	(CAS No) 127-18-4	0.00001 - 0.0025	Carc. 2, H351 Aquatic Chronic 2, H411
1,1,2,2-TETRACHLOROETHANE	(CAS No) 79-34-5	0.00001 - 0.0025	Acute Tox. 2 (Inhalation:gas), H330 Aquatic Chronic 2, H411
1,2-DICHLOROBENZENE	(CAS No) 95-50-1	0.00001 - 0.0025	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT SE 3, H335 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
1,2-DICHLOROPROPANE	(CAS No) 78-87-5	0.00001 - 0.0025	Flam. Liq. 2, H225 Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Inhalation:gas), H332
HEXACHLORO-1,3-BUTADIENE	(CAS No) 87-68-3	0.00001 - 0.0025	Acute Tox. 1 (Inhalation:gas), H330 Skin Irrit. 2, H315 Skin Sens. 1B, H317 Aquatic Acute 1, H400
METHYLENE CHLORIDE	(CAS No) 75-09-2	0.00001 - 0.0025	Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Carc. 2, H351 STOT SE 3, H336
1,3,5-TRIMETHYLBENZENE	(CAS No) 108-67-8	0.00001 - 0.0025	Flam. Liq. 3, H226 Acute Tox. 4 (Inhalation:gas), H332 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT SE 3, H335 Aquatic Chronic 2, H411
DICHLOROTETRAFLUOROETHANE	(CAS No) 1320-37-2	0.00001 - 0.0025	Liquefied gas, H280 Ozone 1, H420
Methyl Bromide	(CAS No) 74-83-9	0.00001 - 0.0025	Flam. Gas 2, H221 Liquefied gas, H280 Acute Tox. 2 (Inhalation:gas), H330 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Muta. 2, H341 STOT SE 3, H335 STOT RE 2, H373 Ozone 1, H420

Full text of H-phrases: see section 16

SECTION 4: First aid measures

39 Components in Nitrogen

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

4.1. Description of first aid measures

First-aid measures after inhalation	: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If you feel unwell, seek medical advice.
First-aid measures after skin contact	: Adverse effects not expected from this product.
First-aid measures after eye contact	: Adverse effects not expected from this product.
First-aid measures after ingestion	: Ingestion is not considered a potential route of exposure.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries after inhalation	: May displace oxygen and cause rapid suffocation.
Symptoms/injuries after skin contact	: Adverse effects not expected from this product.
Symptoms/injuries after eye contact	: Adverse effects not expected from this product.
Symptoms/injuries after ingestion	: Ingestion is not considered a potential route of exposure.
Symptoms/injuries upon intravenous administration	: Not known.
Chronic symptoms	: Adverse effects not expected from this product.

4.3. Indication of any immediate medical attention and special treatment needed

If you feel unwell, seek medical advice. If breathing is difficult, give oxygen.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Use extinguishing media appropriate for surrounding fire.
Unsuitable extinguishing media	: Do not use water jet to extinguish.

5.2. Special hazards arising from the substance or mixture

Fire hazard	: The product is not flammable.
Explosion hazard	: Product is not explosive. Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries.
Reactivity	: None known.

5.3. Advice for firefighters

Firefighting instructions	: In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion. Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire.
Protection during firefighting	: Standard protective clothing and equipment (e.g., Self Contained Breathing Apparatus) for fire fighters. Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures	: Ensure adequate ventilation.
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6.1.1. For non-emergency personnel

Protective equipment	: Wear protective equipment consistent with the site emergency plan.
Emergency procedures	: Escape the danger area by the closest safe route. Close doors and windows of adjacent premises. Keep containers closed. Mark the danger area. Seal off low-lying areas. Keep upwind.

6.1.2. For emergency responders

Protective equipment	: Standard protective clothing and equipment (e.g., Self Contained Breathing Apparatus) for fire fighters. Equip cleanup crew with proper protection.
Emergency procedures	: Evacuate and limit access. Ventilate area.

6.2. Environmental precautions

Try to stop release if safe to do so.

6.3. Methods and material for containment and cleaning up

For containment	: Try to stop release if safe to do so.
Methods for cleaning up	: Dispose of this material and its container in accordance with local regulations.

6.4. Reference to other sections

See also Sections 8 and 13.

39 Components in Nitrogen

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Additional hazards when processed : Pressurized container: Do not pierce or burn, even after use. Use equipment rated for cylinder pressure. Close valve after each use and when empty.
- Precautions for safe handling : Do not handle until all safety precautions have been read and understood. Use only outdoors or in a well-ventilated area.
- Hygiene measures : Do not eat, drink or smoke when using this product.

7.2. Conditions for safe storage, including any incompatibilities

- Technical measures : Comply with applicable regulations.
- Storage conditions : Do not expose to temperatures exceeding 52°C (125°F). Keep container closed when not in use. Protect cylinder from physical damage. Store in well ventilated area.
- Incompatible products : None known.
- Incompatible materials : None known.

7.3. Specific end use(s)

See Section 1.2.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

39 Components in Nitrogen		
ACGIH	Not applicable	
OSHA	Not applicable	
1,2-DICHLOROETHYLENE (CIS) (156-59-2)		
ACGIH	Not applicable	
OSHA	Not applicable	
carbon tetrachloride, tetrachloromethane (56-23-5)		
ACGIH	Not applicable	
OSHA	Not applicable	
1,3-DICHLOROBENZENE (541-73-1)		
ACGIH	Not applicable	
OSHA	Not applicable	
1,1,2-TRICHLOROTRIFLUOROETHANE (76-13-1)		
ACGIH	Not applicable	
OSHA	Not applicable	
Dichlorodifluoromethane (R12) (75-71-8)		
ACGIH	ACGIH TWA (ppm)	1000 ppm
OSHA	OSHA PEL (TWA) (mg/m ³)	4950 mg/m ³
OSHA	OSHA PEL (TWA) (ppm)	1000 ppm
Trichlorofluoromethane (75-69-4)		
ACGIH	Not applicable	
OSHA	Not applicable	
Nitrogen (7727-37-9)		
ACGIH	Not applicable	
OSHA	Not applicable	
Ethylbenzene (100-41-4)		
ACGIH	ACGIH TWA (ppm)	20 ppm
OSHA	OSHA PEL (TWA) (mg/m ³)	435 mg/m ³
OSHA	OSHA PEL (TWA) (ppm)	100 ppm

39 Components in Nitrogen

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

STYRENE (100-42-5)		
ACGIH	Not applicable	
OSHA	Not applicable	
1,3-DICHLOROPROPENE (CIS) (10061-01-5)		
ACGIH	Not applicable	
OSHA	Not applicable	
1,3-DICHLOROPROPENE (TRANS) (10061-02-6)		
ACGIH	Not applicable	
OSHA	Not applicable	
p-Xylene (106-42-3)		
ACGIH	Not applicable	
OSHA	Not applicable	
1,4-DICHLOROBENZENE (106-46-7)		
ACGIH	Not applicable	
OSHA	Not applicable	
1,2-DIBROMOETHANE (106-93-4)		
ACGIH	Not applicable	
OSHA	Not applicable	
1,2-dichloroethane, ethylene dichloride (107-06-2)		
ACGIH	Not applicable	
OSHA	Not applicable	
m-xylene (108-38-3)		
ACGIH	Not applicable	
OSHA	Not applicable	
1,1-DICHLOROETHYLENE (75-35-4)		
ACGIH	Not applicable	
OSHA	Not applicable	
1,1-dichloroethane (75-34-3)		
ACGIH	Not applicable	
OSHA	Not applicable	
METHYLENE CHLORIDE (75-09-2)		
ACGIH	Not applicable	
OSHA	Not applicable	
Vinyl chloride (75-01-4)		
ACGIH	ACGIH TWA (ppm)	1 ppm
OSHA	OSHA PEL (TWA) (ppm)	1 ppm
OSHA	OSHA PEL (STEL) (ppm)	5 ppm (see 29 CFR 1910.1017)
Chloroethane (75-00-3)		
ACGIH	ACGIH TWA (ppm)	100 ppm
OSHA	OSHA PEL (TWA) (mg/m ³)	2600 mg/m ³
OSHA	OSHA PEL (TWA) (ppm)	1000 ppm

39 Components in Nitrogen

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

HEXACHLORO-1,3-BUTADIENE (87-68-3)		
ACGIH	Not applicable	
OSHA	Not applicable	
1,1,2,2-TETRACHLOROETHANE (79-34-5)		
ACGIH	Not applicable	
OSHA	Not applicable	
TRICHLOROETHYLENE (79-01-6)		
ACGIH	Not applicable	
OSHA	Not applicable	
1,1,2-trichloroethane (79-00-5)		
ACGIH	Not applicable	
OSHA	Not applicable	
1,2-DICHLOROPROPANE (78-87-5)		
ACGIH	Not applicable	
OSHA	Not applicable	
1,2,4-TRIMETHYLBENZENE (95-63-6)		
ACGIH	Not applicable	
OSHA	Not applicable	
1,2-DICHLOROBENZENE (95-50-1)		
ACGIH	Not applicable	
OSHA	Not applicable	
O-XYLENE (95-47-6)		
ACGIH	Not applicable	
OSHA	Not applicable	
Chloromethane (R40) (74-87-3)		
ACGIH	ACGIH TWA (ppm)	50 ppm
ACGIH	ACGIH STEL (ppm)	100 ppm
OSHA	OSHA PEL (TWA) (ppm)	100 ppm
OSHA	OSHA PEL (Ceiling) (ppm)	200 ppm
Methyl Bromide (74-83-9)		
ACGIH	ACGIH TWA (ppm)	1 ppm
OSHA	OSHA PEL (Ceiling) (mg/m ³)	80 mg/m ³
OSHA	OSHA PEL (Ceiling) (ppm)	20 ppm
1,1,1-trichloroethane (71-55-6)		
ACGIH	Not applicable	
OSHA	Not applicable	
Benzene (71-43-2)		
ACGIH	ACGIH TWA (ppm)	0.5 ppm
ACGIH	ACGIH STEL (ppm)	2.5 ppm
OSHA	OSHA PEL (TWA) (ppm)	1 ppm
OSHA	OSHA PEL (STEL) (ppm)	5 ppm (see 29 CFR 1910.1028)
OSHA	OSHA PEL (Ceiling) (ppm)	25 ppm

39 Components in Nitrogen

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Chloroform (67-66-3)		
ACGIH	ACGIH TWA (ppm)	10 ppm
OSHA	OSHA PEL (Ceiling) (mg/m ³)	240 mg/m ³
OSHA	OSHA PEL (Ceiling) (ppm)	50 ppm

DICHLOROTETRAFLUOROETHANE (1320-37-2)	
ACGIH	Not applicable
OSHA	Not applicable

TETRACHLOROETHYLENE (127-18-4)	
ACGIH	Not applicable
OSHA	Not applicable

1,3,5-TRIMETHYLBENZENE (108-67-8)	
ACGIH	Not applicable
OSHA	Not applicable

Toluene (108-88-3)		
ACGIH	ACGIH TWA (ppm)	20 ppm
OSHA	OSHA PEL (TWA) (ppm)	200 ppm
OSHA	OSHA PEL (Ceiling) (ppm)	300 ppm

Chlorobenzene (108-90-7)		
ACGIH	ACGIH TWA (ppm)	10 ppm
OSHA	OSHA PEL (TWA) (mg/m ³)	350 mg/m ³
OSHA	OSHA PEL (TWA) (ppm)	75 ppm

1,2,4-TRICHLOROBENZENE (120-82-1)	
ACGIH	Not applicable
OSHA	Not applicable

8.2. Exposure controls

Appropriate engineering controls	: Ensure exposure is below occupational exposure limits. Provide adequate general and local exhaust ventilation. Systems under pressure should be regularly checked for leakages. Oxygen detectors should be used when asphyxiating gases may be released. Consider work permit system e.g. for maintenance activities.
Hand protection	: Wear working gloves when handling gas containers. 29 CFR 1910.138: Hand Protection.
Eye protection	: Wear safety glasses with side shields. 29 CFR 1910.133: Eye and Face Protection.
Skin and body protection	: Wear suitable protective clothing, e.g. - lab coats, coveralls or flame resistant clothing.
Respiratory protection	: None necessary during normal and routine operations. See Sections 5 & 6.
Thermal hazard protection	: None necessary during normal and routine operations.
Environmental exposure controls	: Refer to local regulations for restriction of emissions to the atmosphere. See section 13 for specific methods for waste gas treatment.
Other information	: Wear safety shoes while handling containers. 29 CFR 1910.136: Foot Protection.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Gas
Appearance	: Clear, colorless gas.
Color	: Colorless
Odor	: No data available
Odor threshold	: No data available
pH	: No data available
Melting point	: No data available
Freezing point	: No data available

39 Components in Nitrogen

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Boiling point	: No data available
Flash point	: Not applicable - not flammable
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: See Section 2.1 and 2.2
Explosion limits	: Not applicable - not flammable
Explosive properties	: Not applicable - not flammable.
Oxidizing properties	: None.
Vapor pressure	: No data available
Relative density	: No data available
Relative vapor density at 20 °C	: No data available
Molecular mass	: Not applicable for gas-mixtures.
Relative gas density	: Similar to air
Solubility	: No data available
Log Pow	: No data available
Log Kow	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

None known.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

None known.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

None known.

10.6. Hazardous decomposition products

Under normal conditions of storage and use hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

1,2-DICHLOROETHYLENE (CIS) (156-59-2)	
ATE US (gases)	4500.000 ppmV/4h
carbon tetrachloride, tetrachloromethane (56-23-5)	
LC50 inhalation rat (ppm)	8000 ppm/4h
ATE US (oral)	100.000 mg/kg body weight
ATE US (dermal)	300.000 mg/kg body weight
ATE US (gases)	8000.000 ppmV/4h
ATE US (vapors)	3.000 mg/l/4h
ATE US (dust, mist)	0.500 mg/l/4h
1,3-DICHLOROBENZENE (541-73-1)	
LC50 inhalation rat (ppm)	1875.934 ppm/4h

39 Components in Nitrogen

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

1,3-DICHLOROBENZENE (541-73-1)	
ATE US (oral)	500.000 mg/kg body weight
ATE US (gases)	700.000 ppmV/4h
1,1,2-TRICHLOROTRIFLUOROETHANE (76-13-1)	
LC50 inhalation rat (ppm)	38500 ppm/4h
Dichlorodifluoromethane (R12) (75-71-8)	
LC50 inhalation rat (ppm)	800000 ppm/4h
ATE US (gases)	800000.000 ppmV/4h
Trichlorofluoromethane (75-69-4)	
LC50 inhalation rat (ppm)	32500 ppm/4h
Nitrogen (7727-37-9)	
LC50 inhalation rat (ppm)	820000 ppm/4h
Ethylbenzene (100-41-4)	
LD50 oral rat	3500 mg/kg
LD50 dermal rabbit	15354 mg/kg
LC50 inhalation rat (mg/l)	17.2 mg/l/4h
LC50 inhalation rat (ppm)	8954.02 ppm/4h
ATE US (oral)	3500.000 mg/kg body weight
ATE US (dermal)	15354.000 mg/kg body weight
ATE US (gases)	8954.020 ppmV/4h
ATE US (vapors)	17.200 mg/l/4h
ATE US (dust, mist)	17.200 mg/l/4h
STYRENE (100-42-5)	
LC50 inhalation rat (ppm)	2770.14 ppm/4h
ATE US (gases)	2770.140 ppmV/4h
1,3-DICHLOROPROPENE (CIS) (10061-01-5)	
ATE US (oral)	100.000 mg/kg body weight
ATE US (dermal)	300.000 mg/kg body weight
ATE US (gases)	4500.000 ppmV/4h
ATE US (vapors)	11.000 mg/l/4h
ATE US (dust, mist)	1.500 mg/l/4h
1,3-DICHLOROPROPENE (TRANS) (10061-02-6)	
ATE US (oral)	100.000 mg/kg body weight
ATE US (dermal)	300.000 mg/kg body weight
ATE US (gases)	4500.000 ppmV/4h
p-Xylene (106-42-3)	
LD50 oral rat	5000 mg/kg
LC50 inhalation rat (ppm)	4550 ppm/4h
ATE US (dermal)	1100.000 mg/kg body weight
ATE US (gases)	4550.000 ppmV/4h
ATE US (vapors)	11.000 mg/l/4h
1,4-DICHLOROBENZENE (106-46-7)	
LC50 inhalation rat (ppm)	1875.934 ppm/4h
ATE US (gases)	700.000 ppmV/4h
1,2-DIBROMOETHANE (106-93-4)	
LC50 inhalation rat (ppm)	657.84529 ppm/4h
ATE US (oral)	100.000 mg/kg body weight
ATE US (dermal)	300.000 mg/kg body weight
ATE US (gases)	700.000 ppmV/4h
1,2-dichloroethane, ethylene dichloride (107-06-2)	
LC50 inhalation rat (ppm)	1323 ppm/4h
ATE US (oral)	500.000 mg/kg body weight
ATE US (gases)	1323.000 ppmV/4h

39 Components in Nitrogen

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

1,2-dichloroethane, ethylene dichloride (107-06-2)	
ATE US (vapors)	3.000 mg/l/4h
ATE US (dust, mist)	0.500 mg/l/4h
m-xylene (108-38-3)	
LC50 inhalation rat (ppm)	4550 ppm/4h
ATE US (dermal)	1100.000 mg/kg body weight
ATE US (gases)	4550.000 ppmV/4h
ATE US (vapors)	11.000 mg/l/4h
ATE US (dust, mist)	1.500 mg/l/4h
1,1-DICHLOROETHYLENE (75-35-4)	
LC50 inhalation rat (ppm)	6350 ppm/4h
ATE US (gases)	4500.000 ppmV/4h
1,1-dichloroethane (75-34-3)	
LC50 inhalation rat (ppm)	13000 ppm/4h
ATE US (oral)	500.000 mg/kg body weight
ATE US (gases)	13000.000 ppmV/4h
METHYLENE CHLORIDE (75-09-2)	
LC50 inhalation rat (ppm)	20105 ppm/4h
Vinyl chloride (75-01-4)	
LD50 oral rat	500 mg/kg
Chloroethane (75-00-3)	
LC50 inhalation rat (mg/l)	152 g/m ³ (Exposure time: 2 h)
LC50 inhalation rat (ppm)	40187.89 ppm/4h
ATE US (gases)	40187.890 ppmV/4h
ATE US (vapors)	152.000 mg/l/4h
ATE US (dust, mist)	152.000 mg/l/4h
HEXACHLORO-1,3-BUTADIENE (87-68-3)	
LC50 inhalation rat (ppm)	59.07609 ppm/4h
ATE US (gases)	10.000 ppmV/4h
1,1,2,2-TETRACHLOROETHANE (79-34-5)	
ATE US (gases)	100.000 ppmV/4h
TRICHLOROETHYLENE (79-01-6)	
LC50 inhalation rat (ppm)	13091.24 ppm/4h
ATE US (gases)	13091.240 ppmV/4h
1,1,2-trichloroethane (79-00-5)	
LC50 inhalation rat (ppm)	4051 ppm/4h
ATE US (oral)	500.000 mg/kg body weight
ATE US (dermal)	1100.000 mg/kg body weight
ATE US (gases)	4051.000 ppmV/4h
ATE US (vapors)	11.000 mg/l/4h
ATE US (dust, mist)	1.500 mg/l/4h
1,2-DICHLOROPROPANE (78-87-5)	
LC50 inhalation rat (ppm)	4284 ppm/4h
ATE US (oral)	500.000 mg/kg body weight
ATE US (gases)	4500.000 ppmV/4h
1,2,4-TRIMETHYLBENZENE (95-63-6)	
LC50 inhalation rat (ppm)	3661.09 ppm/4h
ATE US (gases)	3661.090 ppmV/4h
1,2-DICHLOROBENZENE (95-50-1)	
ATE US (oral)	500.000 mg/kg body weight
O-XYLENE (95-47-6)	
LC50 inhalation rat (ppm)	4550 ppm/4h
ATE US (dermal)	1100.000 mg/kg body weight

39 Components in Nitrogen

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

O-XYLENE (95-47-6)	
ATE US (gases)	4550.000 ppmV/4h
ATE US (vapors)	11.000 mg/l/4h
ATE US (dust, mist)	1.500 mg/l/4h
Chloromethane (R40) (74-87-3)	
LD50 oral rat	1800 mg/kg
LC50 inhalation rat (mg/l)	5300 mg/m ³ (Exposure time: 4 h)
LC50 inhalation rat (ppm)	4150 ppm/4h
ATE US (oral)	1800.000 mg/kg body weight
ATE US (gases)	4150.000 ppmV/4h
ATE US (vapors)	5.300 mg/l/4h
ATE US (dust, mist)	5.300 mg/l/4h
Methyl Bromide (74-83-9)	
LD50 oral rat	214 mg/kg
LC50 inhalation rat (ppm)	425 ppm/4h
ATE US (oral)	214.000 mg/kg body weight
ATE US (gases)	425.000 ppmV/4h
1,1,1-trichloroethane (71-55-6)	
LC50 inhalation rat (ppm)	17000 ppm/4h
ATE US (gases)	17000.000 ppmV/4h
ATE US (vapors)	11.000 mg/l/4h
ATE US (dust, mist)	1.500 mg/l/4h
Benzene (71-43-2)	
LD50 oral rat	930 mg/kg
LC50 inhalation rat (ppm)	13230 (13050 - 14380) ppm/4h
ATE US (oral)	930.000 mg/kg body weight
ATE US (gases)	13230.000 ppmV/4h
ATE US (vapors)	11.000 mg/l/4h
ATE US (dust, mist)	1.500 mg/l/4h
Chloroform (67-66-3)	
LC50 inhalation rat (mg/l)	47702 mg/m ³ (Exposure time: 4 h)
LC50 inhalation rat (ppm)	9769.76 ppm/4h
ATE US (gases)	9769.760 ppmV/4h
ATE US (vapors)	47.702 mg/l/4h
ATE US (dust, mist)	47.702 mg/l/4h
TETRACHLOROETHYLENE (127-18-4)	
LC50 inhalation rat (ppm)	7130.03 ppm/4h
1,3,5-TRIMETHYLBENZENE (108-67-8)	
ATE US (gases)	4500.000 ppmV/4h
Toluene (108-88-3)	
LD50 oral rat	636 mg/kg
LD50 dermal rabbit	8390 mg/kg
LC50 inhalation rat (mg/l)	12.5 mg/l/4h
LC50 inhalation rat (ppm)	13001.09 ppm/4h
ATE US (oral)	636.000 mg/kg body weight
ATE US (dermal)	8390.000 mg/kg body weight
ATE US (gases)	13001.090 ppmV/4h
ATE US (vapors)	12.500 mg/l/4h
ATE US (dust, mist)	12.500 mg/l/4h
Chlorobenzene (108-90-7)	
LD50 oral rat	2914 mg/kg
LC50 inhalation rat (mg/l)	13.5 mg/l (Exposure time: 7 h)
ATE US (oral)	2914.000 mg/kg body weight
ATE US (gases)	4500.000 ppmV/4h

39 Components in Nitrogen

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Chlorobenzene (108-90-7)	
ATE US (vapors)	13.500 mg/l/4h
ATE US (dust, mist)	1.500 mg/l/4h

1,2,4-TRICHLOROBENZENE (120-82-1)	
ATE US (oral)	500.000 mg/kg body weight

Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified

Ethylbenzene (100-41-4)	
IARC group	2B - Possibly carcinogenic to humans
National Toxicology Program (NTP) Status	1 - Evidence of Carcinogenicity
In OSHA Hazard Communication Carcinogen list	Yes

Vinyl chloride (75-01-4)	
IARC group	1 - Carcinogenic to humans
National Toxicology Program (NTP) Status	2 - Known Human Carcinogens
In OSHA Hazard Communication Carcinogen list	Yes
In OSHA Specifically Regulated Carcinogen list	Yes

Chloroethane (75-00-3)	
IARC group	3 - Not classifiable
National Toxicology Program (NTP) Status	1 - Evidence of Carcinogenicity

Chloromethane (R40) (74-87-3)	
IARC group	3 - Not classifiable

Methyl Bromide (74-83-9)	
IARC group	3 - Not classifiable
National Toxicology Program (NTP) Status	1 - Evidence of Carcinogenicity

Benzene (71-43-2)	
IARC group	1 - Carcinogenic to humans
National Toxicology Program (NTP) Status	1 - Evidence of Carcinogenicity, 2 - Known Human Carcinogens
In OSHA Hazard Communication Carcinogen list	Yes
In OSHA Specifically Regulated Carcinogen list	Yes

Chloroform (67-66-3)	
IARC group	2B - Possibly carcinogenic to humans
National Toxicology Program (NTP) Status	1 - Evidence of Carcinogenicity, 3 - Reasonably anticipated to be Human Carcinogen
In OSHA Hazard Communication Carcinogen list	Yes

Toluene (108-88-3)	
IARC group	3 - Not classifiable

Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: Not classified

39 Components in Nitrogen

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Specific target organ toxicity (repeated exposure) : Not classified

Aspiration hazard : Not classified

Symptoms/injuries after inhalation : May displace oxygen and cause rapid suffocation.

Symptoms/injuries after skin contact : Adverse effects not expected from this product.

Symptoms/injuries after eye contact : Adverse effects not expected from this product.

Symptoms/injuries after ingestion : Ingestion is not considered a potential route of exposure.

Symptoms/injuries upon intravenous administration : Not known.

Chronic symptoms : Adverse effects not expected from this product.

SECTION 12: Ecological information

12.1. Toxicity

Ethylbenzene (100-41-4)	
LC50 fish 1	11.0 - 18.0 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static])
EC50 Daphnia 1	1.8 - 2.4 mg/l (Exposure time: 48 h - Species: Daphnia magna)
EC50 other aquatic organisms 1	4.6 mg/l (Exposure time: 72 h - Species: Pseudokirchneriella subcapitata)
LC50 fish 2	4.2 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [semi-static])
EC50 other aquatic organisms 2	> 438 mg/l (Exposure time: 96 h - Species: Pseudokirchneriella subcapitata)

Vinyl chloride (75-01-4)	
LC50 fish 1	210 mg/l (Exposure time: 96 h - Species: Brachydanio rerio)
EC50 other aquatic organisms 1	943 mg/l (Exposure time: 48 h - Species: Chilomonas paramecium)

Chloroethane (75-00-3)	
EC50 Daphnia 1	58 mg/l (Exposure time: 48 h - Species: Daphnia magna)
EC50 other aquatic organisms 1	39 mg/l (Exposure time: 72 h - Species: Desmodesmus subspicatus)

Chloromethane (R40) (74-87-3)	
LC50 fish 1	550 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])

Methyl Bromide (74-83-9)	
LC50 fish 1	11 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])
EC50 Daphnia 1	2 mg/l (Exposure time: 48 h - Species: Daphnia magna)
EC50 other aquatic organisms 1	3.2 mg/l (Exposure time: 48 h - Species: Scenedesmus quadricauda)
LC50 fish 2	0.8 mg/l (Exposure time: 96 h - Species: Poecilia reticulata [semi-static])
EC50 Daphnia 2	1.7 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])

Benzene (71-43-2)	
LC50 fish 1	10.7 - 14.7 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 Daphnia 1	8.76 - 15.6 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])

39 Components in Nitrogen

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Benzene (71-43-2)	
EC50 other aquatic organisms 1	29 mg/l (Exposure time: 72 h - Species: Pseudokirchneriella subcapitata)
LC50 fish 2	5.3 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [flow-through])
EC50 Daphnia 2	10 mg/l (Exposure time: 48 h - Species: Daphnia magna)
Chloroform (67-66-3)	
LC50 fish 1	71 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 Daphnia 1	29 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 fish 2	18 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [flow-through])
Toluene (108-88-3)	
LC50 fish 1	15.22 - 19.05 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 Daphnia 1	5.46 - 9.83 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
EC50 other aquatic organisms 1	> 433 mg/l (Exposure time: 96 h - Species: Pseudokirchneriella subcapitata)
LC50 fish 2	12.6 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
EC50 Daphnia 2	11.5 mg/l (Exposure time: 48 h - Species: Daphnia magna)
EC50 other aquatic organisms 2	12.5 mg/l (Exposure time: 72 h - Species: Pseudokirchneriella subcapitata [static])
Chlorobenzene (108-90-7)	
LC50 fish 1	7 - 8.5 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 Daphnia 1	0.59 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 fish 2	4.5 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])

12.2. Persistence and degradability

Dichlorodifluoromethane (R12) (75-71-8)	
Persistence and degradability	No data available.
Nitrogen (7727-37-9)	
Persistence and degradability	No ecological damage caused by this product.

Vinyl chloride (75-01-4)	
Persistence and degradability	The substance is biodegradable. Unlikely to persist.
Chloroethane (75-00-3)	
Persistence and degradability	Not readily biodegradable.

Chloromethane (R40) (74-87-3)	
Persistence and degradability	The substance is biodegradable. Unlikely to persist.

12.3. Bioaccumulative potential

Dichlorodifluoromethane (R12) (75-71-8)	
Log Pow	2.16
Bioaccumulative potential	Not expected to bioaccumulate due to the low log Kow (log Kow < 4). Refer to section 9.
Nitrogen (7727-37-9)	
Log Pow	Not applicable for inorganic gases.
Bioaccumulative potential	No ecological damage caused by this product.
Ethylbenzene (100-41-4)	
BCF fish 1	15
Log Pow	3.118

39 Components in Nitrogen

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Vinyl chloride (75-01-4)	
BCF fish 1	(no significant bioaccumulation)
Log Pow	1.52
Bioaccumulative potential	Not expected to bioaccumulate due to the low log Kow (log Kow < 4). Refer to section 9.

Chloroethane (75-00-3)	
Log Pow	1.43
Bioaccumulative potential	Not expected to bioaccumulate due to the low log Kow (log Kow < 4). Refer to section 9.

Chloromethane (R40) (74-87-3)	
Log Pow	0.91
Bioaccumulative potential	Not expected to bioaccumulate due to the low log Kow (log Kow < 4). Refer to section 9.

Methyl Bromide (74-83-9)	
Log Pow	1.19
Bioaccumulative potential	Not expected to bioaccumulate due to the low log Kow (log Kow < 4). Refer to section 9.

Benzene (71-43-2)	
BCF fish 1	3.5 - 4.4
Log Pow	1.83

Chloroform (67-66-3)	
BCF fish 1	1.4 - 13
Log Pow	2 (at 25 °C)

Toluene (108-88-3)	
Log Pow	2.65

Chlorobenzene (108-90-7)	
BCF fish 1	(negligible potential in fish)
Log Pow	2.8

12.4. Mobility in soil

Dichlorodifluoromethane (R12) (75-71-8)	
Ecology - soil	Because of its high volatility, the product is unlikely to cause ground or water pollution.

Nitrogen (7727-37-9)	
Ecology - soil	No ecological damage caused by this product.

Vinyl chloride (75-01-4)	
Ecology - soil	Because of its high volatility, the product is unlikely to cause ground or water pollution.

Chloroethane (75-00-3)	
Ecology - soil	Because of its high volatility, the product is unlikely to cause ground or water pollution.

Chloromethane (R40) (74-87-3)	
Ecology - soil	Because of its high volatility, the product is unlikely to cause ground or water pollution.

Methyl Bromide (74-83-9)	
Ecology - soil	Because of its high volatility, the product is unlikely to cause ground or water pollution.

12.5. Other adverse effects

Effect on ozone layer	: Harms public health and the environment by destroying ozone in the upper atmosphere
Effect on the global warming	: Contains greenhouse gas(es) not covered by 842/2006/EC.

39 Components in Nitrogen

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 13: Disposal considerations

13.1. Waste treatment methods

- Waste treatment methods : Contact supplier if guidance is required. Do not discharge into any place where its accumulation could be dangerous. Ensure that the emission levels from local regulations or operating permits are not exceeded.
- Waste disposal recommendations : Refer to the CGA Pamphlet P-63 "Disposal of Gases" available at www.cganet.com for more guidance on suitable disposal methods.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Transport document description : UN1956 Compressed gas, n.o.s.

UN-No.(DOT) : UN1956

Proper Shipping Name (DOT) : Compressed gas, n.o.s.

Hazard labels (DOT) : 2.2 - Non-flammable gas



DOT Packaging Non Bulk (49 CFR 173.xxx) : 302;305

DOT Packaging Bulk (49 CFR 173.xxx) : 314;315

DOT Symbols : G - Identifies PSN requiring a technical name

DOT Packaging Exceptions (49 CFR 173.xxx) : 306;307

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 75 kg

DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 150 kg

DOT Vessel Stowage Location : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.

Additional information

Other information : No supplementary information available.

ADR

Transport document description : UN 1956 COMPRESSED GAS, N.O.S., 2.2, (E)

Class (ADR) : 2 - Gases

Hazard identification number (Kemler No.) : 20

Classification code (ADR) : 1A

Hazard labels (ADR) : 2.2 - Non-flammable compressed gas



Orange plates :



Tunnel restriction code (ADR) : E

Limited quantities (ADR) : 120ml

Excepted quantities (ADR) : E1

Transport by sea

UN-No. (IMDG) : 1956

Proper Shipping Name (IMDG) : COMPRESSED GAS, N.O.S.

39 Components in Nitrogen

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Class (IMDG) : 2 - Gases

Air transport

UN-No. (IATA) : 1956
Proper Shipping Name (IATA) : COMPRESSED GAS, N.O.S.
Class (IATA) : 2

SECTION 15: Regulatory information

15.1. US Federal regulations

Dichlorodifluoromethane (R12) (75-71-8)

Listed on the United States TSCA (Toxic Substances Control Act) inventory
Subject to reporting requirements of United States SARA Section 313

SARA Section 313 - Emission Reporting	1.0 %
---------------------------------------	-------

Nitrogen (7727-37-9)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Ethylbenzene (100-41-4)

Listed on the United States TSCA (Toxic Substances Control Act) inventory
Subject to reporting requirements of United States SARA Section 313

SARA Section 313 - Emission Reporting	0.1 %
---------------------------------------	-------

Vinyl chloride (75-01-4)

Listed on the United States TSCA (Toxic Substances Control Act) inventory
Subject to reporting requirements of United States SARA Section 313

SARA Section 313 - Emission Reporting	0.1 %
---------------------------------------	-------

Chloroethane (75-00-3)

Listed on the United States TSCA (Toxic Substances Control Act) inventory
Subject to reporting requirements of United States SARA Section 313

EPA TSCA Regulatory Flag	T - T - indicates a substance that is the subject of a Section 4 test rule under TSCA.
--------------------------	--

SARA Section 313 - Emission Reporting	1.0 %
---------------------------------------	-------

Chloromethane (R40) (74-87-3)

Listed on the United States TSCA (Toxic Substances Control Act) inventory
Subject to reporting requirements of United States SARA Section 313

EPA TSCA Regulatory Flag	T - T - indicates a substance that is the subject of a Section 4 test rule under TSCA.
--------------------------	--

SARA Section 313 - Emission Reporting	1.0 %
---------------------------------------	-------

Methyl Bromide (74-83-9)

Listed on the United States TSCA (Toxic Substances Control Act) inventory
Listed on the United States SARA Section 302
Subject to reporting requirements of United States SARA Section 313

SARA Section 302 Threshold Planning Quantity (TPQ)	1000
--	------

SARA Section 313 - Emission Reporting	1.0 %
---------------------------------------	-------

Benzene (71-43-2)

Listed on the United States TSCA (Toxic Substances Control Act) inventory
Subject to reporting requirements of United States SARA Section 313

SARA Section 313 - Emission Reporting	0.1 %
---------------------------------------	-------

Chloroform (67-66-3)

Listed on the United States TSCA (Toxic Substances Control Act) inventory
Listed on the United States SARA Section 302
Subject to reporting requirements of United States SARA Section 313

SARA Section 302 Threshold Planning Quantity (TPQ)	10000
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SARA Section 313 - Emission Reporting	0.1 %
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39 Components in Nitrogen

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Toluene (108-88-3)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313	
SARA Section 313 - Emission Reporting	1.0 %

Chlorobenzene (108-90-7)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313	
EPA TSCA Regulatory Flag	T - T - indicates a substance that is the subject of a Section 4 test rule under TSCA.
SARA Section 313 - Emission Reporting	1.0 %

15.2. International regulations

CANADA

No additional information available

Dichlorodifluoromethane (R12) (75-71-8)	
Listed on the Canadian DSL (Domestic Substances List)	
WHMIS Classification	Class A - Compressed Gas

Nitrogen (7727-37-9)	
Listed on the Canadian DSL (Domestic Substances List)	
WHMIS Classification	Class A - Compressed Gas

Ethylbenzene (100-41-4)	
Listed on the Canadian DSL (Domestic Substances List)	
WHMIS Classification	Class B Division 2 - Flammable Liquid Class D Division 2 Subdivision A - Very toxic material causing other toxic effects Class D Division 2 Subdivision B - Toxic material causing other toxic effects

Vinyl chloride (75-01-4)	
Listed on the Canadian DSL (Domestic Substances List)	
WHMIS Classification	Class A - Compressed Gas Class B Division 1 - Flammable Gas Class D Division 2 Subdivision A - Very toxic material causing other toxic effects Class D Division 2 Subdivision B - Toxic material causing other toxic effects Class F - Dangerously Reactive Material

Chloroethane (75-00-3)	
Listed on the Canadian DSL (Domestic Substances List)	
WHMIS Classification	Class A - Compressed Gas Class B Division 1 - Flammable Gas

Chloromethane (R40) (74-87-3)	
Listed on the Canadian DSL (Domestic Substances List)	

Methyl Bromide (74-83-9)	
Listed on the Canadian DSL (Domestic Substances List)	
WHMIS Classification	Class A - Compressed Gas Class D Division 1 Subdivision A - Very toxic material causing immediate and serious toxic effects Class D Division 2 Subdivision B - Toxic material causing other toxic effects Class E - Corrosive Material

Benzene (71-43-2)	
Listed on the Canadian DSL (Domestic Substances List)	
WHMIS Classification	Class B Division 2 - Flammable Liquid Class D Division 2 Subdivision A - Very toxic material causing other toxic effects Class D Division 2 Subdivision B - Toxic material causing other toxic effects

39 Components in Nitrogen

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Chloroform (67-66-3)	
Listed on the Canadian DSL (Domestic Substances List)	
WHMIS Classification	Class D Division 1 Subdivision B - Toxic material causing immediate and serious toxic effects Class D Division 2 Subdivision A - Very toxic material causing other toxic effects Class D Division 2 Subdivision B - Toxic material causing other toxic effects

Toluene (108-88-3)	
Listed on the Canadian DSL (Domestic Substances List)	
WHMIS Classification	Class B Division 2 - Flammable Liquid Class D Division 2 Subdivision A - Very toxic material causing other toxic effects Class D Division 2 Subdivision B - Toxic material causing other toxic effects

Chlorobenzene (108-90-7)	
Listed on the Canadian DSL (Domestic Substances List)	
WHMIS Classification	Class B Division 2 - Flammable Liquid Class D Division 1 Subdivision B - Toxic material causing immediate and serious toxic effects Class D Division 2 Subdivision B - Toxic material causing other toxic effects

EU-Regulations

No additional information available

Dichlorodifluoromethane (R12) (75-71-8)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Nitrogen (7727-37-9)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Ethylbenzene (100-41-4)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Vinyl chloride (75-01-4)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Chloroethane (75-00-3)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Chloromethane (R40) (74-87-3)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Methyl Bromide (74-83-9)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Benzene (71-43-2)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Chloroform (67-66-3)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Toluene (108-88-3)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Chlorobenzene (108-90-7)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Not classified

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

No additional information available

National regulations

39 Components in Nitrogen

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Dichlorodifluoromethane (R12) (75-71-8)

Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Japanese Pollutant Release and Transfer Register Law (PRTR Law)
Listed on the Canadian IDL (Ingredient Disclosure List)

Nitrogen (7727-37-9)

Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

Ethylbenzene (100-41-4)

Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Japanese Pollutant Release and Transfer Register Law (PRTR Law)
Listed on the Canadian IDL (Ingredient Disclosure List)

Vinyl chloride (75-01-4)

Listed on IARC (International Agency for Research on Cancer)
Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Japanese Pollutant Release and Transfer Register Law (PRTR Law)
Listed as carcinogen on NTP (National Toxicology Program)
Listed on the Canadian IDL (Ingredient Disclosure List)

Chloroethane (75-00-3)

Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Japanese Poisonous and Deleterious Substances Control Law
Listed on the Canadian IDL (Ingredient Disclosure List)

Chloromethane (R40) (74-87-3)

Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Japanese Poisonous and Deleterious Substances Control Law
Japanese Pollutant Release and Transfer Register Law (PRTR Law)
Listed on the Canadian IDL (Ingredient Disclosure List)

39 Components in Nitrogen

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Methyl Bromide (74-83-9)

Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Japanese ISHL (Industrial Safety and Health Law)
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Japanese Poisonous and Deleterious Substances Control Law
Japanese Pollutant Release and Transfer Register Law (PRTR Law)

Benzene (71-43-2)

Listed on IARC (International Agency for Research on Cancer)
Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Japanese Pollutant Release and Transfer Register Law (PRTR Law)
Listed as carcinogen on NTP (National Toxicology Program)
Listed on the Canadian IDL (Ingredient Disclosure List)

Chloroform (67-66-3)

Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Japanese Poisonous and Deleterious Substances Control Law
Japanese Pollutant Release and Transfer Register Law (PRTR Law)
Listed on the Canadian IDL (Ingredient Disclosure List)

Toluene (108-88-3)

Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Japanese Poisonous and Deleterious Substances Control Law
Japanese Pollutant Release and Transfer Register Law (PRTR Law)
Listed on the Canadian IDL (Ingredient Disclosure List)

Chlorobenzene (108-90-7)

Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Japanese Pollutant Release and Transfer Register Law (PRTR Law)
Listed on the Canadian IDL (Ingredient Disclosure List)

15.3. US State regulations

Ethylbenzene (100-41-4)

U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
Yes	No	No	No	54 µg/day

39 Components in Nitrogen

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Vinyl chloride (75-01-4)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
Yes	No	No	No	3 µg/day

Chloroethane (75-00-3)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
Yes	No	No	No	150 µg/day

Chloromethane (R40) (74-87-3)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
No	Yes	No	Yes	

Methyl Bromide (74-83-9)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
No	Yes	No	No	

Benzene (71-43-2)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
Yes	Yes	No	Yes	6.4 µg/day

Chloroform (67-66-3)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
Yes	Yes	No	No	20 µg/day

Toluene (108-88-3)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
No	Yes	Yes	No	

Dichlorodifluoromethane (R12) (75-71-8)				
U.S. - Massachusetts - Right To Know List				
U.S. - New Jersey - Right to Know Hazardous Substance List				
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List				
U.S. - Pennsylvania - RTK (Right to Know) List				

Nitrogen (7727-37-9)				
U.S. - Massachusetts - Right To Know List				
U.S. - New Jersey - Right to Know Hazardous Substance List				
U.S. - Pennsylvania - RTK (Right to Know) List				

39 Components in Nitrogen

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Ethylbenzene (100-41-4)

U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
U.S. - Pennsylvania - RTK (Right to Know) List

Vinyl chloride (75-01-4)

U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances
U.S. - Pennsylvania - RTK (Right to Know) List

Chloroethane (75-00-3)

U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
U.S. - Pennsylvania - RTK (Right to Know) List

Chloromethane (R40) (74-87-3)

U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
U.S. - Pennsylvania - RTK (Right to Know) List

Methyl Bromide (74-83-9)

U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
U.S. - Pennsylvania - RTK (Right to Know) List

Benzene (71-43-2)

U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances
U.S. - Pennsylvania - RTK (Right to Know) List

Chloroform (67-66-3)

U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances
U.S. - Pennsylvania - RTK (Right to Know) List

Toluene (108-88-3)

U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
U.S. - Pennsylvania - RTK (Right to Know) List

Chlorobenzene (108-90-7)

U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

Indication of changes

: Revised safety data sheet in accordance with OSHA final rule on GHS implementation promulgated March 26, 2012.

39 Components in Nitrogen

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Other information

: This Safety Data Sheet is offered pursuant to OSHA's Hazard Communication Standard, 29 CFR, 1910.1200. Other government regulations must be reviewed for applicability to this product.

39 Components in Nitrogen

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Full text of H-phrases:

Acute Tox. 1 (Inhalation:gas)	Acute toxicity (inhalation:gas) Category 1
Acute Tox. 2 (Inhalation:gas)	Acute toxicity (inhalation:gas) Category 2
Acute Tox. 3 (Dermal)	Acute toxicity (dermal) Category 3
Acute Tox. 3 (Inhalation)	Acute toxicity (inhalation) Category 3
Acute Tox. 3 (Inhalation:gas)	Acute toxicity (inhalation:gas) Category 3
Acute Tox. 3 (Oral)	Acute toxicity (oral) Category 3
Acute Tox. 4 (Dermal)	Acute toxicity (dermal) Category 4
Acute Tox. 4 (Inhalation)	Acute toxicity (inhalation) Category 4
Acute Tox. 4 (Inhalation:gas)	Acute toxicity (inhalation:gas) Category 4
Acute Tox. 4 (Inhalation:vapour)	Acute toxicity (inhalation:vapour) Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Aquatic Acute 1	Hazardous to the aquatic environment - Acute Hazard Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment - Chronic Hazard Category 1
Aquatic Chronic 2	Hazardous to the aquatic environment - Chronic Hazard Category 2
Aquatic Chronic 3	Hazardous to the aquatic environment - Chronic Hazard Category 3
Asp. Tox. 1	Aspiration hazard Category 1
Carc. 1A	Carcinogenicity Category 1A
Carc. 1B	Carcinogenicity Category 1B
Carc. 2	Carcinogenicity Category 2
Compressed gas	Gases under pressure Compressed gas
Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
Flam. Gas 1	Flammable gases Category 1
Flam. Gas 2	Flammable gases Category 2
Flam. Liq. 1	Flammable liquids Category 1
Flam. Liq. 2	Flammable liquids Category 2
Flam. Liq. 3	Flammable liquids Category 3
Liquefied gas	Gases under pressure Liquefied gas
Muta. 1B	Germ cell mutagenicity Category 1B
Muta. 2	Germ cell mutagenicity Category 2
Ozone 1	Hazardous to the ozone layer Category 1
Repr. 2	Reproductive toxicity Category 2
Skin Irrit. 2	Skin corrosion/irritation Category 2
Skin Sens. 1	Skin sensitization Category 1
Skin Sens. 1B	Skin sensitization Category 1B
STOT RE 1	Specific target organ toxicity (repeated exposure) Category 1
STOT RE 2	Specific target organ toxicity (repeated exposure) Category 2
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H220	Extremely flammable gas
H221	Flammable gas
H224	Extremely flammable liquid and vapor
H225	Highly flammable liquid and vapor
H226	Flammable liquid and vapor
H280	Contains gas under pressure; may explode if heated
H301	Toxic if swallowed
H302	Harmful if swallowed
H304	May be fatal if swallowed and enters airways
H311	Toxic in contact with skin
H312	Harmful in contact with skin
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
H330	Fatal if inhaled
H331	Toxic if inhaled
H332	Harmful if inhaled
H335	May cause respiratory irritation
H336	May cause drowsiness or dizziness
H340	May cause genetic defects (Inhalation)
H341	Suspected of causing genetic defects
H350	May cause cancer

39 Components in Nitrogen

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

H351	Suspected of causing cancer
H361	Suspected of damaging fertility or the unborn child
H372	Causes damage to organs through prolonged or repeated exposure
H373	May cause damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects
H411	Toxic to aquatic life with long lasting effects
H412	Harmful to aquatic life with long lasting effects
H420	Harms public health and the environment by destroying ozone in the upper atmosphere

SDS US (GHS HazCom 2012)

This Safety Data Sheet is offered pursuant to OSHA's Hazard Communication Standard, 29 CFR, 1910.1200. Other government regulations must be reviewed for applicability to this product. To the best of Air Liquide America Corporation'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 product 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.