Safety Data Sheet

Section 1: Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product identifier

Product Name • **Sevoflurane (1 - 10%), Halothane (0.1 - 5%), Nitrogen (Balance)**

Synonyms • 47836

Product Code • 90096

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

Relevant identified use(s) • Calibration Gas

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 EU Directive 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 • Compressed Gas - H280
Germ Cell Mutagenicity 2 - H341
Reproductive Toxicity 2 - H361

DSD/DPD • Harmful (Xn)
Substances Toxic To Reproduction - Category 3
Mutagenic Substances - Category 3

R62, R63, R68

2.2 Label Elements

CLP

WARNING

Hazard statements
- H280 - Contains gas under pressure; may explode if heated
H341 - Suspected of causing genetic defects.
H361 - Suspected of damaging fertility or 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.
P281 - Use personal protective equipment as required.

Response
- P308+P313 - IF exposed or concerned: Get medical advice/attention.

Storage/Disposal
- P403 - Store in a well-ventilated place.
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
- R62 - Possible risk of impaired fertility.
R63 - Possible risk of harm to the unborn child.
R68 - Possible risk of irreversible effects.

Safety phrases
- S37 - Wear suitable gloves.

2.3 Other Hazards

CLP
- This material is a simple asphyxiant. May displace or reduce oxygen available for breathing especially in confined spaces.
According to Regulation (EC) No. 1272/2008 (CLP) this material is considered hazardous.

DSD/DPD
- This material is a simple asphyxiant. May displace or reduce oxygen available for breathing especially in confined spaces.
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
- Compressed Gas - H280
Germ Cell Mutagenicity 2 - H341
Reproductive Toxicity 2 - H361
Simple Asphyxiant

2.2 Label elements

OSHA HCS 2012

WARNING

Hazard statements
- Contains gas under pressure; may explode if heated - H280
Suspected of causing genetic defects. - H341
Suspected of damaging fertility or the unborn child. - H361
May displace oxygen and cause rapid suffocation.

Precautionary statements

Prevention
- Obtain special instructions before use. - P201
  Do not handle until all safety precautions have been read and understood. - P202
  Wear protective gloves/protective clothing/eye protection/face protection. - P280

Response
- IF exposed or concerned: Get medical advice/attention. - P308+P313

Storage/Disposal
- Store in a well-ventilated place. - P403
  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 HCS 2012
- 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
- Compressed Gas - A
  Other Toxic Effects - D2B

2.2 Label elements

WHMIS

- Compressed Gas - A
  Other Toxic Effects - D2B

2.3 Other hazards

WHMIS
- This material is a simple asphyxiant. May displace or reduce oxygen available for breathing especially in confined spaces.
  In Canada, the product mentioned above is considered hazardous under the Workplace Hazardous Materials Information System (WHMIS).

2.4 Other information

NFPA

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

Hazardous Components					
Chemical Name	**Identifiers**	**%(weight)**	**LD50/LC50**	**Classifications According to Regulation/Directive**	**Comments**
Nitrogen	**CAS:**7727-37-9 **EINECS:**231-783-9	85% TO 98.9%	NDA	**EU DSD/DPD:** Not Classified - Classification criteria not met **EU CLP:** Self Classified - Press. Gas - Comp., H280 **OSHA HCS 2012:** Press. Gas - Comp.; Simp. Asphyx.	Balance
Sevoflurane	**CAS:**28523-86-6	1% TO 10%	Ingestion/Oral-Rat LD50 • 10800 mg/kg Inhalation-Rat LC50 • 28800 ppm 3 Hour(s)	**EU DSD/DPD:** Self Classified - Xn Muta. 3; R68: Repr. 3, R62/630 R67 **EU CLP:** Self Classified - Press. Gas - Comp., H280; Muta. 2, H341; Repr. 2, H361; STOT SE 3: Narc., H336 **OSHA HCS 2012:** Press. Gas - Comp.; Muta. 2; Repr. 2; STOT SE 3: Narc.	NDA
Halothane	**CAS:**151-67-7	0.1% TO 5%	Inhalation-Rat LC50 • 120000 mg/m³ 4 Hour(s) Ingestion/Oral-Rat LD50 • 5680 mg/kg	**EU DSD/DPD:** Self Classified - Xi, R36; R67 **EU CLP:** Self Classified - Press. Gas - Comp., H280; Eye Irrit. 2, H319; STOT SE 3: Narc., H336 **OSHA HCS 2012:** Press. Gas - Comp.; Eye Irrit. 2A, STOT SE 3:Narc.	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
- IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Administer oxygen if breathing is difficult. Give artificial respiration if victim is not breathing. If signs/symptoms continue, get medical attention.

Skin
- In case of contact with substance, immediately flush skin with running water for at least 20 minutes. If irritation develops and persists, get medical attention.

Eye
- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Ingestion
- First aid is not expected to be necessary if material is used under ordinary conditions and as recommended. Never give anything by mouth to an unconscious person.

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.

4.4 Other information

- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. RESCUERS SHOULD NOT ATTEMPT TO RETRIEVE VICTIMS OF EXPOSURE TO THIS SUBSTANCE WITHOUT ADEQUATE PERSONAL PROTECTIVE EQUIPMENT. At a minimum, Self-Contained Breathing Apparatus must be worn. Victim(s) who experience any adverse effect after over-exposure to this gas mixture must be taken for medical attention. Rescuers should be taken for medical attention if necessary. Take a copy of the label and the SDS to physician or other health professional with victim(s).

Section 5 - Firefighting Measures

5.1 Extinguishing media

Suitable Extinguishing Media
- Use extinguishing agent suitable for type of surrounding fire.

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.
Ruptured cylinders may rocket.

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 positive pressure self-contained breathing apparatus (SCBA).
Move containers from fire area if you can do it without risk.
FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.
FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out.
FIRE INVOLVING TANKS: Do not direct water at source of leak or safety devices; icing may occur.
FIRE INVOLVING TANKS: Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
FIRE INVOLVING TANKS: ALWAYS stay away from tanks engulfed in fire.

Section 6 - Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal Precautions
- Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Do not touch or walk through spilled material. Ventilate the area before entry.

Emergency Procedures
- Stop leak if you can do it without risk. Keep unauthorized personnel away. Keep out of low areas. Stay upwind. Do not direct water at spill or source of leak. LARGE SPILL: Consider initial downwind evacuation for at least 500 meters (1/3 mile)

6.2 Environmental precautions

- No special environmental precautions necessary.

6.3 Methods and material for containment and cleaning up

Containment/Clean-up Measures
- Stop leak if you can do it without risk.
Do not direct water at spill or source of leak.
Use water spray to reduce vapors; do not put water directly on leak, spill area or inside container.
If possible, turn leaking containers so that gas escapes rather than liquid.
Isolate area until gas has dispersed.
Ventilate the area.
Allow substance to evaporate.

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. Ventilate closed spaces before entering. Be aware of any signs of dizziness or fatigue, especially if work is done in a poorly ventilated area; exposures to fatal concentrations of this gas mixture could occur without any significant warning symptoms, due to olfactory fatigue or oxygen deficiency. Cylinders should be firmly secured to prevent falling or being knocked-over. Do not attempt to repair, adjust, or in any other way modify cylinders. If there is a malfunction or another type of operational problem, contact nearest distributor immediately. Empty containers retain product residue and can be hazardous. Do not cut, weld, puncture or incinerate container.

7.2 Conditions for safe storage, including any incompatibilities

Storage

- Store in a cool, dry, well-ventilated place. Protect cylinders against physical damage. Cylinders should be firmly secured to prevent falling or being knocked-over.

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**	**Germany DFG**	**Germany TRGS**
Halothane (151-67-7)	TWAs	50 ppm TWA	2 ppm TWA; 16 mg/m3 TWA	50 ppm TWAEV; 404 mg/m3 TWAEV	Not established	5 ppm TWA AGW (The risk of damage to the embryo or fetus cannot be excluded even when AGW and BGW values are observed, exposure factor 8); 41 mg/m3 TWA AGW (The risk of damage to the embryo or fetus cannot be excluded even when AGW and BGW values are observed observed, exposure factor 8)
	Ceilings	Not established	Not established	Not established	40 ppm Peak; 328 mg/m3 Peak	Not established
	MAKs	Not established	Not established	Not established	5 ppm TWA MAK; 41 mg/m3 TWA MAK	Not established

Exposure Limits/Guidelines (Con't.)						
	Result	**Ireland**	**Israel**	**NIOSH**	**Portugal**	**Spain**
	TWAs	10 ppm TWA; 80 mg/m3 TWA	5 ppm TWA	Not established	50 ppm TWA [VLE-MP]	50 ppm TWA [VLA-ED]; 410 mg/m3 TWA [VLA-ED]
	STELs	Not established	10 ppm STEL	Not established	Not established	Not established

Halothane (151-67-7)	Ceilings	Not established	Not established	2 ppm Ceiling (60 min exposure to waste anesthetic gas); 16.2 mg/m3 Ceiling (60 min exposure to waste anesthetic gas)	Not established	Not established
Sevoflurane (28523-86-6)	Ceilings	Not established	2 ppm Ceiling (per hour)	Not established	Not established	Not established

Exposure Limits/Guidelines (Con't.)

	Result	Sweden
Halothane (151-67-7)	STELs	10 ppm STV; 80 mg/m3 STV
	TWAs	5 ppm LLV; 40 mg/m3 LLV
Sevoflurane (28523-86-6)	STELs	20 ppm STV; 170 mg/m3 STV
	TWAs	10 ppm LLV; 80 mg/m3 LLV

Exposure Control Notations

Portugal

•Nitrogen (7727-37-9): **Simple Asphyxiants:** (Simple Asphyxiant)

•Halothane (151-67-7): **Carcinogens:** (A4 - Not Classifiable as a Human Carcinogen)

Ireland

•Nitrogen (7727-37-9): **Simple Asphyxiants:** (Asphyxiant)

Spain

•Nitrogen (7727-37-9): **Simple Asphyxiants:** (simple asphyxiant)

Germany TRGS

•Halothane (151-67-7): **Developmental Toxins:** (Category 2) | **Reproductive Toxins:** (Based on current data, this substance can not be classified in categories 1-3)

Germany DFG

•Halothane (151-67-7): **Pregnancy:** (risk to embryo/fetus probable)

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. Have available emergency self-contained breathing apparatus or full-face airline respirator when using this chemical.

Eye/Face

- Wear safety glasses.

Skin/Body

- Wear leather gloves when handling cylinders.

Environmental Exposure Controls

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

Key to abbreviations

ACGIH = American Conference of Governmental Industrial Hygiene

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

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

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

MAK = Maximale Arbeitsplatz Konzentration is the maximum permissible concentration

TWAEV = Time-Weighted Average Exposure Value

NIOSH = National Institute of Occupational Safety and Health

Section 9 - Physical and Chemical Properties

9.1 Information on Physical and Chemical Properties

Material Description			
Physical Form	Gas	Appearance/Description	Colorless gas with a slight ethereal odor.
Color	Colorless	Odor	Slight ethereal odor.
Odor Threshold	Not relevant		
General Properties			
Boiling Point	-196 C(-320.8 F) Nitrogen	Melting Point	-210 C(-346 F) Nitrogen
Decomposition Temperature	Data lacking	pH	Data lacking
Specific Gravity/Relative Density	0.967 Water=1 Nitrogen	Water Solubility	Data lacking
Viscosity	Data lacking	Explosive Properties	Not explosive.
Oxidizing Properties:	Not an oxidizer.		
Volatility			
Vapor Pressure	Data lacking	Vapor Density	0.97 Air=1 Nitrogen
Evaporation Rate	Data lacking		
Flammability			
Flash Point	Not relevant	UEL	Not relevant
LEL	Not relevant	Autoignition	Not relevant
Flammability (solid, gas)	Not flammable.		
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

- Storage in poorly ventilated areas. Storage near a heat source.

10.5 Incompatible materials

- Nitrogen reacts with Li, Nd, and Ti at high temperatures.

10.6 Hazardous decomposition products

- No data available.

Section 11 - Toxicological Information

11.1 Information on toxicological effects

Component Name	CAS	Data
Sevoflurane (1% TO 10%)	28523-86-6	**Acute Toxicity:** orl-rat LD50:10800 mg/kg; ihl-rat LC50:28800 ppm/3H

GHS Properties	Classification
Acute toxicity	**EU/CLP** • Classification criteria not met **OSHA HCS 2012** • Classification criteria not met
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** • Classification criteria not met
STOT-SE	**EU/CLP** • Classification criteria not met **OSHA HCS 2012** • Classification criteria not met
Toxicity for Reproduction	**EU/CLP** • Toxic to Reproduction 2 **OSHA HCS 2012** • Toxic to Reproduction 2
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

Route(s) of entry/exposure

- Inhalation, Skin, Eye

Potential Health Effects

Inhalation

Acute (Immediate)

- This material is a simple asphyxiant. May displace or reduce oxygen available for breathing especially in confined spaces. A potential health hazard associated with this gas mixture is the inhalation of Sevoflurane, a component of this gas mixture. Such over-exposures may occur if this gas mixture is used in a confined space or other poorly-ventilated area. Over-exposures to Sevoflurane can cause anesthetic effects with symptoms of dizziness, headache, nausea, respiratory arrest, coma, or unconsciousness.

Chronic (Delayed)

- No data available

Skin

Acute (Immediate)

- Sevoflurane, a component of this gas mixture, may be irritating to the skin.

Chronic (Delayed)	• No data available

Eye

Acute (Immediate)	• Sevoflurane, a component of this gas mixture, may be irritating to the eye.
Chronic (Delayed)	• No data available

Ingestion

Acute (Immediate)	• Under normal conditions of use, no health effects are expected.
Chronic (Delayed)	• No data available
Mutagenic Effects	• May cause mutagenic effects. Animal studies with Sevoflurane showed mutagenic effects.
Carcinogenic Effects	• The components of this gas mixture are not found on the following lists: FEDERAL OSHA Z LIST, NTP and IARC; therefore, they are not considered to be, nor suspected to be, cancer-causing agents by these agencies.
Reproductive Effects	• May cause reproductive effects. Animal studies with Sevoflurane showed reproductive effects.

Key to abbreviations
LD = Lethal Dose
LC = Lethal Concentration

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

- PBT and vPvB assessment has not been conducted for this material.

12.6 Other adverse effects

Potential Environmental Effects	• No adverse ecological effects are expected.

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	UN1956	Compressed gas, n.o.s (Nitrogen, Sevoflurane)	2.2	NDA	NDA
TDG	UN1956	COMPRESSED GAS, N.O.S. (Nitrogen, Sevoflurane)	2.2	NDA	NDA
IMO/IMDG	UN1956	COMPRESSED GAS, N.O.S. (Nitrogen, Sevoflurane)	2.2	NDA	NDA
IATA/ICAO	UN1956	Compressed gas, n.o.s (Nitrogen, Sevoflurane)	2.2	NDA	NDA

14.6 Special precautions for user

- Cylinders should be transported in a secure position, in a well-ventilated vehicle. The transportation of compressed gas cylinders in automobiles or in closed-body vehicles can present serious safety hazards. If transporting these cylinders in vehicles, ensure these cylinders are not exposed to extremely high temperatures (as may occur in an enclosed vehicle on a hot day). Additionally, the vehicle should be well-ventilated during transportation.

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, Pressure(Sudden Release of)

State Right To Know				
Component	**CAS**	**MA**	**NJ**	**PA**
Nitrogen	7727-37-9	Yes	Yes	Yes
Sevoflurane	28523-86-6	No	No	No
Halothane	151-67-7	Yes	Yes	No

Inventory						
Component	**CAS**	**Canada DSL**	**Canada NDSL**	**China**	**EU EINECS**	**EU ELNICS**
Nitrogen	7727-37-9	Yes	No	Yes	Yes	No
Sevoflurane	28523-86-6	No	No	No	No	No
Halothane	151-67-7	Yes	No	No	Yes	No

Inventory (Con't.)		
Component	**CAS**	**TSCA**
Nitrogen	7727-37-9	Yes
Sevoflurane	28523-86-6	No
Halothane	151-67-7	No

Canada

Labor

Canada - WHMIS - Classifications of Substances

• Nitrogen	7727-37-9	85% TO 98.9%	A
• Halothane	151-67-7	0.1% TO 5%	Not Listed
• Sevoflurane	28523-86-6	1% TO 10%	Not Listed

Canada - WHMIS - Ingredient Disclosure List

• Nitrogen	7727-37-9	85% TO 98.9%	Not Listed
• Halothane	151-67-7	0.1% TO 5%	Not Listed
• Sevoflurane	28523-86-6	1% TO 10%	Not Listed

Environment

Canada - CEPA - Priority Substances List

• Nitrogen	7727-37-9	85% TO 98.9%	Not Listed
• Halothane	151-67-7	0.1% TO 5%	Not Listed
• Sevoflurane	28523-86-6	1% TO 10%	Not Listed

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China

Environment

China - Ozone Depleting Substances - First Schedule

• Nitrogen	7727-37-9	85% TO 98.9%	Not Listed
• Halothane	151-67-7	0.1% TO 5%	Not Listed
• Sevoflurane	28523-86-6	1% TO 10%	Not Listed

China - Ozone Depleting Substances - Second Schedule

• Nitrogen	7727-37-9	85% TO 98.9%	Not Listed
• Halothane	151-67-7	0.1% TO 5%	Not Listed
• Sevoflurane	28523-86-6	1% TO 10%	Not Listed

China - Ozone Depleting Substances - Third Schedule

• Nitrogen	7727-37-9	85% TO 98.9%	Not Listed
• Halothane	151-67-7	0.1% TO 5%	Not Listed
• Sevoflurane	28523-86-6	1% TO 10%	Not Listed

Other

China - Annex I & II - Controlled Chemicals Lists

- Nitrogen 7727-37-9 85% TO 98.9% Not Listed
- Halothane 151-67-7 0.1% TO 5% Not Listed
- Sevoflurane 28523-86-6 1% TO 10% Not Listed

China - Dangerous Goods List

- Nitrogen 7727-37-9 85% TO 98.9% UN1066; UN1977
- Halothane 151-67-7 0.1% TO 5% Not Listed
- Sevoflurane 28523-86-6 1% TO 10% Not Listed

China - Export Control List - Part I Chemicals

- Nitrogen 7727-37-9 85% TO 98.9% Not Listed
- Halothane 151-67-7 0.1% TO 5% Not Listed
- Sevoflurane 28523-86-6 1% TO 10% Not Listed

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Europe

Other

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

- Nitrogen 7727-37-9 85% TO 98.9% Not Listed
- Halothane 151-67-7 0.1% TO 5% Not Listed
- Sevoflurane 28523-86-6 1% TO 10% Not Listed

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

- Nitrogen 7727-37-9 85% TO 98.9% Not Listed
- Halothane 151-67-7 0.1% TO 5% Not Listed
- Sevoflurane 28523-86-6 1% TO 10% Not Listed

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

- Nitrogen 7727-37-9 85% TO 98.9% Not Listed
- Halothane 151-67-7 0.1% TO 5% Not Listed
- Sevoflurane 28523-86-6 1% TO 10% Not Listed

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

- Nitrogen 7727-37-9 85% TO 98.9% Not Listed
- Halothane 151-67-7 0.1% TO 5% Not Listed
- Sevoflurane 28523-86-6 1% TO 10% Not Listed

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

- Nitrogen 7727-37-9 85% TO 98.9% Not Listed
- Halothane 151-67-7 0.1% TO 5% Not Listed
- Sevoflurane 28523-86-6 1% TO 10% Not Listed

Germany

Environment

Germany - TA Luft - Types and Classes

- Nitrogen 7727-37-9 85% TO 98.9% Not Listed
- Halothane 151-67-7 0.1% TO 5% Not Listed
- Sevoflurane 28523-86-6 1% TO 10% Not Listed

Germany - Water Classification (VwVwS) - Annex 1

- Nitrogen 7727-37-9 85% TO 98.9% ID Number 1351, not considered hazardous to water
- Halothane 151-67-7 0.1% TO 5% Not Listed
- Sevoflurane 28523-86-6 1% TO 10% Not Listed

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

- Nitrogen 7727-37-9 85% TO 98.9% Not Listed
- Halothane 151-67-7 0.1% TO 5% Not Listed
- Sevoflurane 28523-86-6 1% TO 10% Not Listed

Germany - Water Classification (VwVwS) - Annex 3

- Nitrogen 7727-37-9 85% TO 98.9% Not Listed
- Halothane 151-67-7 0.1% TO 5% Not Listed
- Sevoflurane 28523-86-6 1% TO 10% Not Listed

Other

Germany - Specifically Regulated Chemicals in TRGS

- Nitrogen 7727-37-9 85% TO 98.9% Not Listed
- Halothane 151-67-7 0.1% TO 5% Not Listed
- Sevoflurane 28523-86-6 1% TO 10% Not Listed

Portugal

Other

Portugal - Prohibited Substances

- Nitrogen 7727-37-9 85% TO 98.9% Not Listed
- Halothane 151-67-7 0.1% TO 5% Not Listed
- Sevoflurane 28523-86-6 1% TO 10% Not Listed

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United Kingdom

Environment

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

- Nitrogen 7727-37-9 85% TO 98.9% Not Listed
- Halothane 151-67-7 0.1% TO 5% Not Listed
- Sevoflurane 28523-86-6 1% TO 10% Not Listed

United Kingdom - Substances Contained in Dangerous Substances or Preparations

- Nitrogen 7727-37-9 85% TO 98.9% Not Listed
- Halothane 151-67-7 0.1% TO 5% Not Listed
- Sevoflurane 28523-86-6 1% TO 10% Not Listed

Other

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

- Nitrogen 7727-37-9 85% TO 98.9% Not Listed
- Halothane 151-67-7 0.1% TO 5% Not Listed
- Sevoflurane 28523-86-6 1% TO 10% Not Listed

United Kingdom - The Red List - Dangerous Substances in Water

- Nitrogen 7727-37-9 85% TO 98.9% Not Listed
- Halothane 151-67-7 0.1% TO 5% Not Listed
- Sevoflurane 28523-86-6 1% TO 10% Not Listed

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United States

Labor

U.S. - OSHA - Process Safety Management - Highly Hazardous Chemicals

- Nitrogen 7727-37-9 85% TO 98.9% Not Listed
- Halothane 151-67-7 0.1% TO 5% Not Listed
- Sevoflurane 28523-86-6 1% TO 10% Not Listed

U.S. - OSHA - Specifically Regulated Chemicals

- Nitrogen 7727-37-9 85% TO 98.9% Not Listed
- Halothane 151-67-7 0.1% TO 5% Not Listed

- Sevoflurane 28523-86-6 1% TO 10% Not Listed

Environment

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

- Nitrogen 7727-37-9 85% TO 98.9% Not Listed
- Halothane 151-67-7 0.1% TO 5% Not Listed
- Sevoflurane 28523-86-6 1% TO 10% Not Listed

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

- Nitrogen 7727-37-9 85% TO 98.9% Not Listed
- Halothane 151-67-7 0.1% TO 5% Not Listed
- Sevoflurane 28523-86-6 1% TO 10% Not Listed

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

- Nitrogen 7727-37-9 85% TO 98.9% Not Listed
- Halothane 151-67-7 0.1% TO 5% Not Listed
- Sevoflurane 28523-86-6 1% TO 10% Not Listed

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

- Nitrogen 7727-37-9 85% TO 98.9% Not Listed
- Halothane 151-67-7 0.1% TO 5% Not Listed
- Sevoflurane 28523-86-6 1% TO 10% Not Listed

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

- Nitrogen 7727-37-9 85% TO 98.9% Not Listed
- Halothane 151-67-7 0.1% TO 5% Not Listed
- Sevoflurane 28523-86-6 1% TO 10% Not Listed

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

- Nitrogen 7727-37-9 85% TO 98.9% Not Listed
- Halothane 151-67-7 0.1% TO 5% Not Listed
- Sevoflurane 28523-86-6 1% TO 10% Not Listed

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

- Nitrogen 7727-37-9 85% TO 98.9% Not Listed
- Halothane 151-67-7 0.1% TO 5% Not Listed
- Sevoflurane 28523-86-6 1% TO 10% Not Listed

United States - California

Environment

U.S. - California - Proposition 65 - Carcinogens List

• Nitrogen	7727-37-9	85% TO 98.9%	Not Listed
• Halothane	151-67-7	0.1% TO 5%	Not Listed
• Sevoflurane	28523-86-6	1% TO 10%	Not Listed

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

• Nitrogen	7727-37-9	85% TO 98.9%	Not Listed
• Halothane	151-67-7	0.1% TO 5%	developmental toxicity, initial date 9/1/96
• Sevoflurane	28523-86-6	1% TO 10%	Not Listed

U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)

• Nitrogen	7727-37-9	85% TO 98.9%	Not Listed
• Halothane	151-67-7	0.1% TO 5%	Not Listed
• Sevoflurane	28523-86-6	1% TO 10%	Not Listed

U.S. - California - Proposition 65 - No Significant Risk Levels (NSRL)

• Nitrogen	7727-37-9	85% TO 98.9%	Not Listed
• Halothane	151-67-7	0.1% TO 5%	Not Listed
• Sevoflurane	28523-86-6	1% TO 10%	Not Listed

U.S. - California - Proposition 65 - Reproductive Toxicity - Female

• Nitrogen	7727-37-9	85% TO 98.9%	Not Listed
• Halothane	151-67-7	0.1% TO 5%	Not Listed
• Sevoflurane	28523-86-6	1% TO 10%	Not Listed

U.S. - California - Proposition 65 - Reproductive Toxicity - Male

• Nitrogen	7727-37-9	85% TO 98.9%	Not Listed
• Halothane	151-67-7	0.1% TO 5%	Not Listed
• Sevoflurane	28523-86-6	1% TO 10%	Not Listed

United States - Pennsylvania

Labor

U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List

• Nitrogen	7727-37-9	85% TO 98.9%	Not Listed
• Halothane	151-67-7	0.1% TO 5%	Not Listed
• Sevoflurane	28523-86-6	1% TO 10%	Not Listed

U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances

• Nitrogen	7727-37-9	85% TO 98.9%	Not Listed
• Halothane	151-67-7	0.1% TO 5%	Not Listed
• Sevoflurane	28523-86-6	1% TO 10%	Not Listed

15.2 Chemical Safety Assessment

- No Chemical Safety Assessment has been carried out.

Section 16 - Other Information

Last Revision Date
- 05/June/2013

Preparation Date
- 26/November/2012

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