JOHNSEN'S NON-FLAMMABLE QFF WITH HOSE 13 OZ.

Safety Data Sheet

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

Revision date: 08/21/2014 : Version:

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

1.1. Product identifier

Product form : Mixture

Trade name : JOHNSEN'S NON-FLAMMABLE QFF WITH HOSE 13 OZ.

Product code : 3912

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

Use of the substance/mixture : Flat Fix

1.3. Details of the supplier of the safety data sheet

Technical Chemical Company
P.O. BOX 139
Cleburne, Texas 76033
T 817-645-6088

1.4. Emergency telephone number

Emergency number : CHEMTREC 24 Hour 1-800-424-9300, 1-703-527-3887 (International)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (GHS-US)

Compressed gas H280
Eye Irrit. 2B H320
Carc. 1A H350

Full text of H-phrases: see section 16

2.2. Label elements

GHS-US labeling

Hazard pictograms (GHS-US) :

GHS04

GHS08

Signal word (GHS-US) : Danger

Hazard statements (GHS-US) : H280 - Contains gas under pressure; may explode if heated
H320 - Causes eye irritation
H350 - May cause cancer

Precautionary statements (GHS-US) : P201 - Obtain special instructions
P202 - Do not handle until all safety precautions have been read and understood
P264 - Wash affected areas thoroughly after handling
P280 - Wear protective gloves,protective clothing,eye protection,face protection
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P308+P313 - If exposed or concerned: Get medical advice/attention
P337+P313 - If eye irritation persists: Get medical advice/attention
P405 - Store locked up
P410+P403 - Protect from sunlight. Store in a well-ventilated place
P501 - Dispose of contents/container to appropriate waste disposal facility, in accordance with local, regional, national, international regulations.

2.3. Other hazards

Other hazards not contributing to the classification : Contains gas under pressure; may explode if heated.

2.4. Unknown acute toxicity (GHS-US)

No data available

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Name	Product identifier	%	Classification (GHS-US)
Water	(CAS No) 7732-18-5	30 - 50	Not classified
1,1,1,2-Tetrafluoroethane	(CAS No) 811-97-2	10 - 30	Liquefied gas, H280
Polymer Latex	(CAS No) Proprietary	10 - 30	Eye Irrit. 2B, H320
Ethanol	(CAS No) 64-17-5	2.925 - 3.25	Flam. Liq. 2, H225 Carc. 1A, H350
1,1-Difluoroethane, Liquefied, Under Pressure	(CAS No) 75-37-6	1 - 5	Liquefied gas, H280
2-Propanol	(CAS No) 67-63-0	1 - 5	Flam. Liq. 2, H225 Eye Irrit. 2A, H319 STOT SE 3, H336
2-Aminoethanol	(CAS No) 141-43-5	<= 0.6908	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Skin Corr. 1A, H314
Methyl Isobutyl Ketone	(CAS No) 108-10-1	0.0325 - 0.1625	Flam. Liq. 2, H225 Acute Tox. 3 (Inhalation:gas), H331 Eye Irrit. 2A, H319 STOT SE 3, H335
Ammonium Hydroxide, Aqueous Solution, Conc=25%	(CAS No) 1336-21-6	< 1	Skin Corr. 1B, H314 Aquatic Acute 1, H400
Proprietary Inhibitor Package	(CAS No) Proprietary	<= 0.0144	Not classified

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid measures after inhalation : Assure fresh air breathing. Allow the victim to rest.

First-aid measures after skin contact : Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.

First-aid measures after eye contact : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

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

Symptoms/injuries : Not expected to present a significant hazard under anticipated conditions of normal use. If you feel unwell, seek medical advice.

Symptoms/injuries after inhalation : May cause cancer by inhalation.

Symptoms/injuries after skin contact : Frostbites. Itching. May cause slight irritation . Red skin. Skin rash/inflammation.

Symptoms/injuries after eye contact : Causes eye irritation. Inflammation/damage of the eye tissue. Irritation of the eye tissue. Redness of the eye tissue.

Symptoms/injuries after ingestion : May be harmful if swallowed and enters airways. May be fatal if swallowed and enters airways.

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

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray. Sand.

Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

No additional information available

5.3. Advice for firefighters

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

Other information : NFPA Aerosol Level 1.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Remove ignition sources.

6.1.1. For non-emergency personnel

Protective equipment : Gloves. Safety glasses.

Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection.

Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

For containment : Dam up the liquid spill. Contain released substance, pump into suitable containers. Plug the leak, cut off the supply.

Methods for cleaning up : Store away from other materials.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

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.

Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor. Obtain special instructions . Do not handle until all safety precautions have been read and understood.

Hygiene measures : Do not eat, drink or smoke when using this product. Wash affected areas thoroughly after handling. Wash contaminated clothing before reuse. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Proper grounding procedures to avoid static electricity should be followed. Comply with applicable regulations.

Storage conditions : Keep only in the original container in a cool, well ventilated place away from : Keep container closed when not in use.

Incompatible products : Strong bases. Strong acids.

Incompatible materials : Sources of ignition. Direct sunlight.

Storage area : Store in a well-ventilated place.

7.3. Specific end use(s)

Follow Label Directions.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

2-Aminoethanol (141-43-5)		
USA ACGIH	ACGIH TWA (ppm)	3 ppm
USA ACGIH	ACGIH STEL (ppm)	3 ppm

Methyl Isobutyl Ketone (108-10-1)		
USA ACGIH	ACGIH TWA (ppm)	20 ppm
USA ACGIH	ACGIH STEL (ppm)	20 ppm

2-Propanol (67-63-0)		
USA ACGIH	ACGIH TWA (mg/m³)	980 mg/m³
USA ACGIH	ACGIH TWA (ppm)	400 ppm
USA ACGIH	ACGIH STEL (mg/m³)	1225 mg/m³
USA ACGIH	ACGIH STEL (ppm)	500 ppm
USA OSHA	OSHA PEL (TWA) (mg/m³)	980 mg/m³
USA OSHA	OSHA PEL (TWA) (ppm)	400 ppm

8.2. Exposure controls

Appropriate engineering controls : Local exhaust venilation, vent hoods.

Personal protective equipment : Gloves. Safety glasses. Avoid all unnecessary exposure.

Hand protection : Wear protective gloves.

Eye protection : Chemical goggles or safety glasses.

Skin and body protection	:	Wear suitable protective clothing.
Respiratory protection	:	Wear appropriate mask.
Other information	:	Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Gas
Appearance	:	Liquid.
Color	:	White.
Odor	:	Mild ammonia.
Odor threshold	:	No data available
pH	:	9 - 10
Relative evaporation rate (butyl acetate=1)	:	No data available
Melting point	:	No data available
Freezing point	:	No data available
Boiling point	:	No data available
Flash point	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Flammability (solid, gas)	:	No data available
Vapor pressure	:	No data available
Relative vapor density at 20 °C	:	No data available
Relative density	:	1.01
Solubility	:	Soluble in water.
Log Pow	:	No data available
Log Kow	:	No data available
Viscosity, kinematic	:	No data available
Viscosity, dynamic	:	No data available
Explosive properties	:	Heating may cause an explosion.
Oxidizing properties	:	No data available
Explosive limits	:	No data available

9.2. Other information

VOC content : 5.1 %

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Not established.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

Strong acids. Strong bases.

10.6. Hazardous decomposition products

Toxic fume. . Carbon monoxide. Carbon dioxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

2-Aminoethanol (141-43-5)	
LD50 oral rat	1720 mg/kg (Rat)
LD50 dermal rabbit	1018 mg/kg (Rabbit)

Methyl Isobutyl Ketone (108-10-1)	
LD50 oral rat	2080 mg/kg (Rat; Equivalent or similar to OECD 401; Experimental value)
LD50 dermal rat	>= 2000 mg/kg body weight (Rat; Experimental value; OECD 402: Acute Dermal Toxicity)
LD50 dermal rabbit	> 16000 mg/kg (Rabbit)
LC50 inhalation rat (mg/l)	8.2- 16.4,Rat; Experimental value
LC50 inhalation rat (ppm)	2000 ppm/4h (Rat; Experimental value,Rat; Experimental value)

Ethanol (64-17-5)	
LD50 oral rat	10740 mg/kg body weight (Rat; OECD 401: Acute Oral Toxicity; Experimental value)
LD50 dermal rabbit	> 16000 mg/kg (Rabbit; Literature study)

2-Propanol (67-63-0)	
LD50 oral rat	5045 mg/kg (Rat; OECD 401: Acute Oral Toxicity; Experimental value; 5840 mg/kg bodyweight; Rat)
LD50 dermal rabbit	12870 mg/kg (Rabbit; Experimental value; Equivalent or similar to OECD 402; 16.4; Rabbit)
LC50 inhalation rat (mg/l)	73 mg/l/4h (Rat)

1,1-Difluoroethane, Liquefied, Under Pressure (75-37-6)	
LC50 inhalation rat (mg/l)	176 mg/l/4h (Rat; Literature study)
LC50 inhalation rat (ppm)	> 437500 ppm/4h Mortality in 2/6 at 43.75% and 1/6 at 38.3%. At ≥ 17.52% lethargy, laboured breathing, reduced responsiveness to sound were observed. At 6.64% only hyperaemia and shallow breathing were observed.

1,1,1,2-Tetrafluoroethane (811-97-2)	
LC50 inhalation rat (mg/l)	> 2000 mg/l/4h (Rat; Literature study)
LC50 inhalation rat (ppm)	> 359300 ppm/4h (Rat; Literature study)

Skin corrosion/irritation : Not classified
pH: 9 - 10

Serious eye damage/irritation : Causes eye irritation.
pH: 9 - 10

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : May cause cancer.

Ethanol (64-17-5)	
IARC group	1

2-Propanol (67-63-0)	
IARC group	3

Reproductive toxicity : Not classified

Specific target organ toxicity (single exposure) : Not classified

Specific target organ toxicity (repeated exposure) : Not classified

Aspiration hazard : Not classified

Potential Adverse human health effects and symptoms : Based on available data, the classification criteria are not met.

Symptoms/injuries after inhalation : May cause cancer by inhalation.

Symptoms/injuries after skin contact : Frostbites. Itching. May cause slight irritation . Red skin. Skin rash/inflammation.

Symptoms/injuries after eye contact : Causes eye irritation. Inflammation/damage of the eye tissue. Irritation of the eye tissue. Redness of the eye tissue.

Symptoms/injuries after ingestion : May be harmful if swallowed and enters airways. May be fatal if swallowed and enters airways.

SECTION 12: Ecological information

12.1. Toxicity

2-Aminoethanol (141-43-5)	
LC50 fish 1	150 mg/l 96 h; Salmo gairdneri (Oncorhynchus mykiss)
EC50 Daphnia 1	140 mg/l (24 h; Daphnia magna)
LC50 fish 2	329.16 mg/l (96 h; Lepomis macrochirus)
TLM fish 1	100 - 1000,96 h; Pisces
TLM other aquatic organisms 1	100 - 1000,96 h
Threshold limit algae 1	0.97 mg/l (192 h; Scenedesmus quadricauda; Inhibitory)
Threshold limit algae 2	35 mg/l (72 h; Algae)

Methyl Isobutyl Ketone (108-10-1)	
LC50 fish 1	505 mg/l (96 h; Pimephales promelas; GLP)
EC50 Daphnia 1	170 mg/l (48 h; Daphnia magna; Static system)
EC50 other aquatic organisms 1	400 mg/l (96 h; Selenastrum capricornutum; Growth rate)
LC50 fish 2	600 mg/l 96 h; Salmo gairdneri (Oncorhynchus mykiss)
EC50 Daphnia 2	> 1000 mg/l (48 h; Daphnia magna; GLP)
Threshold limit algae 1	136 mg/l (Microcystis aeruginosa)
Threshold limit algae 2	725 mg/l (8 days; Scenedesmus quadricauda; Nominal concentration)

Ethanol (64-17-5)	
LC50 fish 1	14200 mg/l (96 h; Pimephales promelas; Nominal concentration)
EC50 Daphnia 1	9300 mg/l (48 h; Daphnia magna)
LC50 fish 2	13000 mg/l 96 h; Salmo gairdneri (Oncorhynchus mykiss)
EC50 Daphnia 2	10800 mg/l (24 h; Daphnia magna)
Threshold limit other aquatic organisms 1	65 mg/l (72 h; Protozoa)
Threshold limit algae 1	1450 mg/l (192 h; Microcystis aeruginosa; Growth rate)
Threshold limit algae 2	5000 mg/l (168 h; Scenedesmus quadricauda; Growth rate)

2-Propanol (67-63-0)	
LC50 fish 1	4200 mg/l (96 h; Rasbora heteromorpha; Flow-through system)
EC50 Daphnia 1	> 10000 mg/l (48 h; Daphnia magna)
LC50 fish 2	9640 mg/l (96 h; Pimephales promelas; Lethal)
EC50 Daphnia 2	13299 mg/l (48 h; Daphnia magna)
Threshold limit algae 1	> 1000 mg/l (72 h; Scenedesmus subspicatus; Growth rate)
Threshold limit algae 2	1800 mg/l (72 h; Algae; Cell numbers)

Polymer Latex (Proprietary)	
LC50 fish 1	> 1000 mg/l Toxicity to fish sludge (96 hours) (Carp)

1,1,1,2-Tetrafluoroethane (811-97-2)	
LC50 fish 1	450 mg/l 96 h; Salmo gairdneri (Oncorhynchus mykiss)
EC50 Daphnia 1	980 mg/l (48 h; Daphnia magna)

12.2. Persistence and degradability

JOHNSEN'S NON-FLAMMABLE QFF WITH HOSE 13 OZ.	
Persistence and degradability	Not established.

Water (7732-18-5)	
Persistence and degradability	Not established.

2-Aminoethanol (141-43-5)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil.
Biochemical oxygen demand (BOD)	0.80 g O_2 /g substance
Chemical oxygen demand (COD)	1.34 g O_2 /g substance
ThOD	2.49 g O_2 /g substance
BOD (% of ThOD)	0.32 % ThOD

Proprietary Inhibitor Package (Proprietary)	
Persistence and degradability	Not established.

Ammonium Hydroxide, Aqueous Solution, Conc=25% (1336-21-6)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. No (test)data on mobility of the components available. Ozonation in the air.

Methyl Isobutyl Ketone (108-10-1)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. Biodegradable in the soil under anaerobic conditions. Low potential for adsorption in soil. Photolysis in the air.
Biochemical oxygen demand (BOD)	2.06 g O_2 /g substance
Chemical oxygen demand (COD)	2.16 g O_2 /g substance
ThOD	2.72 g O_2 /g substance
BOD (% of ThOD)	0.76 % ThOD

Ethanol (64-17-5)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. No (test)data on mobility of the substance available.
Biochemical oxygen demand (BOD)	0.8 - 0.967 g O_2 /g substance
Chemical oxygen demand (COD)	1.70 g O_2 /g substance

Ethanol (64-17-5)	
ThOD	2.10 g O_2 /g substance
BOD (% of ThOD)	0.43 % ThOD

2-Propanol (67-63-0)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. Biodegradable in the soil under anaerobic conditions. No (test)data on mobility of the substance available.
Biochemical oxygen demand (BOD)	1.19 g O_2 /g substance
Chemical oxygen demand (COD)	2.23 g O_2 /g substance
ThOD	2.40 g O_2 /g substance
BOD (% of ThOD)	0.49 % ThOD

Polymer Latex (Proprietary)	
Persistence and degradability	Not established.

1,1-Difluoroethane, Liquefied, Under Pressure (75-37-6)	
Persistence and degradability	Biodegradability in water: no data available.

1,1,1,2-Tetrafluoroethane (811-97-2)	
Persistence and degradability	Not readily biodegradable in water.

12.3. Bioaccumulative potential

JOHNSEN'S NON-FLAMMABLE QFF WITH HOSE 13 OZ.	
Bioaccumulative potential	Not established.

Water (7732-18-5)	
Bioaccumulative potential	Not established.

2-Aminoethanol (141-43-5)	
Log Pow	-1.91
Bioaccumulative potential	Bioaccumulation: not applicable.

Proprietary Inhibitor Package (Proprietary)	
Bioaccumulative potential	Not established.

Ammonium Hydroxide, Aqueous Solution, Conc=25% (1336-21-6)	
Bioaccumulative potential	Not bioaccumulative.

Methyl Isobutyl Ketone (108-10-1)	
BCF fish 1	2 - 5 (Pisces)
Log Pow	1.9 (Experimental value; OECD 117: Partition Coefficient (n-octanol/water), HPLC method)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

Ethanol (64-17-5)	
Log Pow	-0.31 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

2-Propanol (67-63-0)	
Log Pow	0.05 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

Polymer Latex (Proprietary)	
Bioaccumulative potential	Not established.

1,1-Difluoroethane, Liquefied, Under Pressure (75-37-6)	
Log Pow	0.75 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

1,1,1,2-Tetrafluoroethane (811-97-2)	
BCF other aquatic organisms 1	5 - 58 (Estimated value)
Log Pow	1.06 (OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

12.4. Mobility in soil

2-Aminoethanol (141-43-5)	
Surface tension	0.050 N/m

Methyl Isobutyl Ketone (108-10-1)	
Surface tension	0.024 N/m (20 °C)

Ethanol (64-17-5)	
Surface tension	0.022 N/m (20 °C)

2-Propanol (67-63-0)	
Surface tension	0.021 N/m (25 °C)

12.5. Other adverse effects

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to appropriate waste disposal facility, in accordance with local, regional, national, international regulations.

Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

US DOT (ground): UN1950, Aerosols, 2.2, Limited Quantity

ICAO/IATA (air): UN1950, Aerosols, 2.2 , Limited Quantity

IMO/IMDG (water): UN1950, Aerosols, 2.2 , Limited Quantity

14.2. UN proper shipping name

Proper Shipping Name (DOT) : Aerosols
non-flammable, (each not exceeding 1 L capacity)

Department of Transportation (DOT) Hazard Classes : 2.2 - Class 2.2 - Non-flammable compressed gas 49 CFR 173.115

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

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

DOT Packaging Non Bulk (49 CFR 173.xxx) : None

DOT Packaging Bulk (49 CFR 173.xxx) : None

14.3. Additional information

Other information : No supplementary information available.

Overland transport

No additional information available

Transport by sea

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

DOT Vessel Stowage Other : 48 - Stow ‘‘away from’’ sources of heat,87 - Stow ‘‘separated from’’ Class 1 (explosives) except Division 14,126 - Segregation same as for Class 9, miscellaneous hazardous materials

Air transport

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

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

SECTION 15: Regulatory information

15.1. US Federal regulations

JOHNSEN'S NON-FLAMMABLE QFF WITH HOSE 13 OZ.	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Sudden release of pressure hazard

2-Aminoethanol (141-43-5)	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard

2-Propanol (67-63-0)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard Fire hazard

1,1-Difluoroethane, Liquefied, Under Pressure (75-37-6)	
SARA Section 311/312 Hazard Classes	Fire hazard Sudden release of pressure hazard Immediate (acute) health hazard

1,1,1,2-Tetrafluoroethane (811-97-2)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
SARA Section 311/312 Hazard Classes	Sudden release of pressure hazard

15.2. International regulations

CANADA

JOHNSEN'S NON-FLAMMABLE QFF WITH HOSE 13 OZ.	
WHMIS Classification	Class A - Compressed Gas

2-Propanol (67-63-0)	
Listed on the Canadian DSL (Domestic Sustances List)	
WHMIS Classification	Class B Division 2 - Flammable Liquid

1,1-Difluoroethane, Liquefied, Under Pressure (75-37-6)	
WHMIS Classification	Class A - Compressed Gas Class B Division 5 - Flammable Aerosol

1,1,1,2-Tetrafluoroethane (811-97-2)	
WHMIS Classification	Class A - Compressed Gas

EU-Regulations

2-Propanol (67-63-0)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

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

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

F+; R12

Full text of R-phrases: see section 16

15.2.2. National regulations

2-Propanol (67-63-0)
Listed on AICS (Australian Inventory of Chemical Substances) Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory Listed on KECI (Korean Existing Chemicals Inventory) Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

15.3. US State regulations

2-Propanol (67-63-0)
U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List

1,1-Difluoroethane, Liquefied, Under Pressure (75-37-6)
U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List U.S. - Massachusetts - Right To Know List

SECTION 16: Other information

Other information : None.

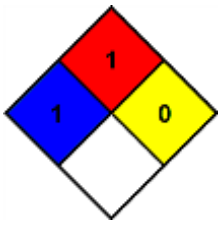
Full text of H-phrases: see section 16:

Acute Tox. 3 (Inhalation:gas)	Acute toxicity (inhalation:gas) Category 3
Acute Tox. 4 (Dermal)	Acute toxicity (dermal) Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Aquatic Acute 1	Hazardous to the aquatic environment - Acute Hazard Category 1
Carc. 1A	Carcinogenicity Category 1A
Compressed gas	Gases under pressure Compressed gas
Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
Eye Irrit. 2B	Serious eye damage/eye irritation Category 2B
Flam. Liq. 2	Flammable liquids Category 2
Liquefied gas	Gases under pressure Liquefied gas
Skin Corr. 1A	Skin corrosion/irritation Category 1A
Skin Corr. 1B	Skin corrosion/irritation Category 1B
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H225	Highly flammable liquid and vapor
H280	Contains gas under pressure; may explode if heated
H302	Harmful if swallowed
H312	Harmful in contact with skin
H314	Causes severe skin burns and eye damage
H319	Causes serious eye irritation
H320	Causes eye irritation
H331	Toxic if inhaled
H335	May cause respiratory irritation
H336	May cause drowsiness or dizziness
H350	May cause cancer
H400	Very toxic to aquatic life

NFPA health hazard : 1 - Exposure could cause irritation but only minor residual injury even if no treatment is given.

NFPA fire hazard : 1 - Must be preheated before ignition can occur.

NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



HMIS III Rating

Health : 1 Slight Hazard - Irritation or minor reversible injury possible

Flammability : 1 Slight Hazard

Physical : 1 Slight Hazard

Personal Protection : B

SDS US (GHS HazCom 2012) - TCC

The Supplier identified in Section 1 of this MSDS has evaluated this product and certifies it to be labeled and packaged in compliance with the applicable provisions of the Federal Hazardous Substance Act as stated in 16 CFR 1500 and enforced by the Consumer Product Safety Commission, and where applicable the products that require Child Resistant Closures are packaged in accordance with the Poison Prevention Packaging Act as stated in 16 CFR 1700 and enforced by the Consumer Product Safety Commission. All closures have been tested in accordance with the latest protocols. No other testing is required to certify compliance with the above. The date of manufacture is stamped on the product

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