

## SAFETY DATA SHEETS

**This SDS packet was issued with item:**

078949580

**The safety data sheets (SDS) in this packet apply to the individual products listed below. Please refer to invoice for specific item number(s).**

078949579

## Safety Data Sheet

According to OSHA Hazard Communication Standard, 29 CFR 1910.1200

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### ISOFLURANE USP (RX) 100ML & 250ML

#### SECTION 1: Identification

##### Product Identifier

**Product Name:** ISOFLURANE USP (RX) 100ML & 250ML

**Synonyms:** 1-Chloro-2,2,2-trifluoroethyl difluoromethyl ether; 2-Chloro-2-(difluoromethoxy)-1, 1,1-trifluoroethane, "ISOFOR"

**Product code:** 78949579, 78949580

##### Recommended Use of the Product and Restriction on Use

**Relevant Identified Uses:** Volatile anaesthetic administered by inhalation

**Uses Advised Against:** Not determined or not applicable.

**Reasons Why Uses Advised Against:** Not determined or not applicable.

##### Manufacturer or Supplier Details

**Supplier:**

**United States**

Aspen Veterinary Resources, LTD.

3155 W. Heartland Drive

Liberty, MO 64068

1-800-792-1238

##### Emergency Telephone Number:

**United States**

CHEMTREC

Within USA and Canada: 1-800-424-9300 (24 hours)

Outside USA and Canada: +1-703-527-3887 (24 hours)

#### SECTION 2: Hazard(s) Identification

##### GHS Classification:

Specific target organ toxicity - single exposure, category 3, narcotic effects

Specific target organ toxicity - repeated exposure, category 2

##### Label elements

##### Hazard Pictograms:



**Signal Word:** Warning

##### Hazard statements:

H336 May cause drowsiness or dizziness

H373 May cause damage to organs (Cardio-vascular and Central nervous system) through prolonged or repeated exposure (inhalation).

##### Precautionary Statements:

P102 Keep out of reach of children

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P260 Do not breathe dust, fumes, gas, mist, vapors or spray.

P271 Use only outdoors or in a well-ventilated area

P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

P312 Call a POISON CENTER or doctor/physician if you feel unwell.

P403+P233 Store in a well-ventilated place. Keep container tightly closed

P405 Store locked up

P501 Dispose of contents and container in accordance with local, regional, national, and international regulations.

**Hazards Not Otherwise Classified:** None

### SECTION 3: Composition/Information on Ingredients

Identification	Name	Weight %
CAS Number: 26675-46-7	Isoflurane	>95

#### Additional Information:

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret in accordance with paragraph (i) of the OSHA Hazard Communication Standard (29 CFR §1910.1200).

### SECTION 4: First Aid Measures

#### Description of First Aid Measures

##### General Notes:

Show this Safety Data Sheet to the doctor in attendance.

##### After Inhalation:

If inhaled, remove person to fresh air and place in a position comfortable for breathing. Keep person at rest. If breathing is difficult, administer oxygen. If breathing has stopped, provide artificial respiration. If experiencing respiratory symptoms, seek medical advice/attention.

##### After Skin Contact:

Remove contaminated clothing and shoes. Rinse skin with copious amounts of water [shower] for several minutes. Launder contaminated clothing before reuse. If symptoms develop or persist, seek medical advice/attention.

##### After Eye Contact:

Rinse eyes with plenty of water for several minutes. Remove contact lenses if present and easy to do so. Protect unexposed eye. If symptoms develop or persist, seek medical advice/attention.

##### After Swallowing:

If swallowed, DO NOT induce vomiting unless told to do so by a physician or poison control center. Rinse mouth with water. Never give anything by mouth to an unconscious person. If spontaneous vomiting occurs, place on the left side with head down to prevent aspiration of liquid into the lungs. If symptoms develop or persist, seek medical advice/attention.

#### Most Important Symptoms and Effects, Both Acute and Delayed

##### Acute Symptoms and Effects:

Inhalation may have adverse effects on the central nervous system. Symptoms may include drowsiness, dizziness, headache, nausea and lowering of consciousness. Acute overexposure via inhalation may result in respiratory distress, confusion and unconsciousness.

##### Delayed Symptoms and Effects:

May cause damage to organs through prolonged or repeated exposure. Effects are dependent on exposure (dose, concentration, contact time).

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#### Immediate Medical Attention and Special Treatment

##### Specific Treatment:

Overexposure via inhalation requires urgent medical treatment.

##### Notes for the Doctor:

Treat symptomatically.

### SECTION 5: Firefighting Measures

#### Extinguishing Media

##### Suitable Extinguishing Media:

Water mist/fog, carbon dioxide, dry chemical or alcohol resistant foam.

##### Unsuitable Extinguishing Media:

Do not use water jet.

#### Specific Hazards During Fire-Fighting:

Thermal decomposition may produce irritating/toxic fumes/gases.

#### Special Protective Equipment for Firefighters:

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full-face piece operated in positive pressure mode.

#### Special precautions:

Avoid contact with skin, eyes, hair and clothing. Do not breathe fumes/gas/mists/aerosols/vapors/dusts.

Move containers from fire area if safe to do so. Use water spray/fog for cooling fire exposed containers.

Avoid unnecessary run-off of extinguishing media which may cause pollution.

### SECTION 6: Accidental Release Measures

#### Personal Precautions, Protective Equipment, and Emergency Procedures:

Evacuate unnecessary personnel. Ventilate area. Extinguish any sources of ignition. Wear recommended personal protective equipment (see Section 8). Avoid contact with skin, eyes and clothing. Avoid breathing mist, vapor, dust, fume and spray. Do not walk through spilled material. Wash thoroughly after handling.

#### Environmental Precautions:

Prevent further leakage or spillage if safe to do so. Prevent from reaching drains, sewers and waterways.

Discharge into the environment must be avoided.

#### Methods and Material for Containment and Cleaning Up:

Do not touch damaged containers or spilled material unless wearing appropriate personal protective clothing. Stop leak if you can do it without risk. Contain and collect spillage and place in suitable container for future disposal. Dispose of in accordance with all applicable regulations (see Section 13).

#### Reference to Other Sections:

For personal protective equipment see Section 8. For disposal see Section 13.

### SECTION 7: Handling and Storage

#### Precautions for Safe Handling:

Use appropriate personal protective equipment (see Section 8). Use only with adequate ventilation. Avoid breathing mist/vapor/spray/dust. Do not eat, drink, smoke, or use personal products when handling chemical substances. Avoid contact with skin, eyes and clothing. Wash affected areas thoroughly after handling. Keep away from incompatible materials (See Section 10). Keep containers tightly closed when not in use.

#### Conditions for Safe Storage, Including Any Incompatibilities:

Store in cool, dry, well-ventilated location out of direct sunlight. Keep away from food and beverages.

Protect from freezing and physical damage. Store away from heat, open flames and other sources of

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ignition. Keep container tightly sealed. Store away from incompatible materials (See Section 10).

## SECTION 8: Exposure Controls/Personal Protection

Only those substances with limit values have been included below.

### Occupational Exposure Limit Values:

Country (Legal Basis)	Substance	Identifier	Permissible concentration
United States(California)	Isoflurane	26675-46-7	PEL: 15 mg/m <sup>3</sup> (2 ppm)
ACGIH	Isoflurane	26675-46-7	8-Hour TWA: 50 ppm (TLV-TWA)

### Biological Limit Values:

No biological exposure limits noted for the ingredient(s).

### Information on Monitoring Procedures:

Not determined or not applicable.

### Appropriate Engineering Controls:

Emergency eye wash stations and safety showers should be available in the immediate vicinity of use or handling. Provide adequate ventilation to maintain the airborne concentrations of vapor, mists, and/or dusts below the applicable workplace exposure limits, while observing recognized national standards (or equivalent).

### Personal Protection Equipment

#### Eye and Face Protection:

Safety glasses or goggles. Use eye protection equipment that has been tested and approved by recognized national standards (or equivalent).

#### Skin and Body Protection:

Chemical resistant, impervious gloves approved by the appropriate standards. Gloves must be inspected prior to use. Avoid skin contact with used gloves. Appropriate techniques should be used to remove used gloves and contaminated clothing. Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Ensure that all personal protective equipment is approved by recognized national standards (or equivalent).

#### Respiratory Protection:

If engineering controls do not maintain airborne concentrations below the applicable workplace exposure limits, or to an acceptable level (if exposure limits have not been established), a respirator approved by recognized national standards (or equivalent) must be worn.

### General Hygienic Measures:

When handling chemical products, do not eat, drink or smoke. Wash hands after handling, before breaks, and at the end of the workday. Avoid contact with skin, eyes and clothing. Wash contaminated clothing before reuse. Perform routine housekeeping.

## SECTION 9: Physical and Chemical Properties

### Information on Basic Physical and Chemical Properties

Appearance	Clear, colorless liquid
Odor	Sweet odor
Odor threshold	Not determined or not available.
pH	Not determined or not available.

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Melting point/freezing point	Not determined or not available.
Initial boiling point/range	49 °C / 120.2°F
Flash point (closed cup)	Not determined or not available.
Evaporation rate	Not determined or not available.
Flammability (solid, gas)	Not determined or not available.
Upper flammability/explosive limit	Not determined or not available.
Lower flammability/explosive limit	Not determined or not available.
Vapor pressure	330 mmHg @ 25 °C
Vapor density	Not determined or not available.
Density	Not determined or not available.
Relative density	1.2 @ 20 °C (vapor/air - mixture) 1.496 @25°C (Water=1)
Solubilities	Insoluble in water
Partition coefficient (n-octanol/water)	Log Pow: 2.1
Auto/Self-ignition temperature	Not determined or not available.
Decomposition temperature	Not determined or not available.
Dynamic viscosity	Not determined or not available.
Kinematic viscosity	Not determined or not available.
Explosive properties	Not determined or not available.
Oxidizing properties	Not determined or not available.

#### Other Information

Molecular weight	184.5
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### SECTION 10: Stability and Reactivity

#### Reactivity:

Not reactive under recommended handling and storage conditions.

#### Chemical Stability:

Stable under recommended handling and storage conditions.

#### Possibility of Hazardous Reactions:

Hazardous reactions are not anticipated under recommended conditions of handling and storage.

#### Conditions to Avoid:

Extreme heat, open flames, hot surfaces, sparks, ignition sources and incompatible materials.

#### Incompatible Materials:

Strong acids and oxidizing agents.

#### Hazardous Decomposition Products:

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

### SECTION 11: Toxicological Information

#### Acute Toxicity

**Assessment:** Based on available data, the classification criteria are not met.

**Product Data:** No data available.

#### Substance Data:

Name	Route	Result
Isoflurane	oral	LD50 Rat: 4770 mg/kg

#### Skin Corrosion/Irritation

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**Assessment:** Based on available data, the classification criteria are not met.

**Product Data:**

No data available.

**Substance Data:** No data available.

#### Serious Eye Damage/Irritation

**Assessment:** Based on available data, the classification criteria are not met.

**Product Data:**

No data available.

**Substance Data:** No data available.

#### Respiratory or Skin Sensitization

**Assessment:** Based on available data, the classification criteria are not met.

**Product Data:**

No data available.

**Substance Data:** No data available.

#### Carcinogenicity

**Assessment:** Based on available data, the classification criteria are not met.

**Product Data:** No data available.

**Substance Data:** No data available.

**International Agency for Research on Cancer (IARC):** None of the ingredients are listed.

**National Toxicology Program (NTP):** None of the ingredients are listed.

**OSHA Carcinogens:** Not applicable

#### Germ Cell Mutagenicity

**Assessment:** Based on available data, the classification criteria are not met.

**Product Data:**

No data available.

**Substance Data:** No data available.

#### Reproductive Toxicity

**Assessment:** Based on available data, the classification criteria are not met.

**Product Data:**

No data available.

**Substance Data:** No data available.

#### Specific Target Organ Toxicity (Single Exposure)

**Assessment:**

May cause drowsiness or dizziness.

**Product Data:**

No data available.

**Substance Data:**

Name	Result
Isoflurane	May cause drowsiness or dizziness.

#### Specific Target Organ Toxicity (Repeated Exposure)

**Assessment:**

May cause damage to organs through prolonged or repeated exposure.

**Product Data:**

No data available.

**Substance Data:**

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Name	Result
Isoflurane	May cause damage to cardio-vascular and Central Nervous system through prolonged or repeated exposure via inhalation.

#### Aspiration toxicity

**Assessment:** Based on available data, the classification criteria are not met.

**Product Data:**

No data available.

**Substance Data:** No data available.

#### Information on Likely Routes of Exposure:

Inhalation; Ingestion; Skin contact; Eye contact.

#### Symptoms Related to the Physical, Chemical, and Toxicological Characteristics:

Refer to Section 4 of this SDS.

#### Other Information:

No data available.

### SECTION 12: Ecological Information

#### Acute (Short-Term) Toxicity

**Assessment:** Based on available data, the classification criteria are not met.

**Product Data:** No data available.

**Substance Data:** No data available.

#### Chronic (Long-Term) Toxicity

**Assessment:** Based on available data, the classification criteria are not met.

**Product Data:** No data available.

**Substance Data:** No data available.

#### Persistence and Degradability

**Product Data:** No data available.

**Substance Data:** No data available.

#### Bioaccumulative Potential

**Product Data:** No data available.

**Substance Data:** No data available.

#### Mobility in Soil

**Product Data:** No data available.

**Substance Data:** No data available.

#### Results of PBT and vPvB assessment

**Product Data:**

**PBT assessment:** This product does not contain any substances that are assessed to be a PBT.

**vPvB assessment:** This product does not contain any substances that are assessed to be a vPvB.

**Substance Data:**

**PBT assessment:** This product does not contain any substances that are assessed to be a PBT.

**vPvB assessment:** This product does not contain any substances that are assessed to be a vPvB.

**Other Adverse Effects:** No data available.

### SECTION 13: Disposal Considerations

#### Disposal Methods:

It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory agencies. Dispose of in accordance with all applicable local, regional, state and federal regulations.

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
### ISOFLURANE USP (RX) 100ML & 250ML

#### Contaminated packages:


Not determined or not applicable.

### SECTION 14: Transport Information


#### United States Transportation of Dangerous Goods (49 CFR DOT)

UN Number	3334
UN Proper Shipping Name	Aviation regulated liquid, n.o.s. (Isoflurane)
UN Transport Hazard Class(es)	9 
Packing Group	None
Environmental Hazards	None
Special Precautions for User	None
Passenger Air/Rail	450 L
Cargo Aircraft Only	450 L
Stowage Category	A

#### International Maritime Dangerous Goods (IMDG)

UN Number	3334
UN Proper Shipping Name	Aviation regulated liquid, n.o.s. (Isoflurane)
UN Transport Hazard Class(es)	9 
Packing Group	None
Environmental Hazards	None
Special Precautions for User	None

#### International Air Transport Association Dangerous Goods Regulations (IATA-DGR)

UN Number	3334
UN Proper Shipping Name	Aviation regulated liquid, n.o.s. (Isoflurane)
UN Transport Hazard Class(es)	9 
Packing Group	III
Environmental Hazards	None
Special Precautions for User	None
ERG Code	9A
Excepted Quantities	E1
Passenger and Cargo	450 L
Cargo Aircraft Only	450 L
Limited Quantity	30 Kg G

### SECTION 15: Regulatory Information

#### United States Regulations

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**Inventory Listing (TSCA):** All ingredients are listed-active or exempt.

**Significant New Use Rule (TSCA Section 5):** None of the ingredients are listed.

**Export Notification under TSCA Section 12(b):** None of the ingredients are listed.

**SARA Section 302 Extremely Hazardous Substances:** None of the ingredients are listed.

**SARA Section 313 Toxic Chemicals:** None of the ingredients are listed.

**CERCLA:** None of the ingredients are listed.

**RCRA:** None of the ingredients are listed.

**Section 112(r) of the Clean Air Act (CAA):** None of the ingredients are listed.

**Massachusetts Right to Know:** None of the ingredients are listed.

**New Jersey Right to Know:** None of the ingredients are listed.

**New York Right to Know:**

26675-46-7	Isoflurane	Listed
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**Pennsylvania Right to Know:** None of the ingredients are listed.

**California Proposition 65:** None of the ingredients are listed.

**Additional information:** Not determined.

### SECTION 16: Other Information

**Abbreviations and Acronyms:** None

#### Disclaimer:

This product has been classified in accordance with OSHA HCS 2012 guidelines. The information provided in this SDS is correct, to the best of our knowledge, based on information available. The information given is designed only as a guidance for safe handling, use, storage, transportation and disposal and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials, unless specified in the text. The responsibility to provide a safe workplace remains with the user.

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End of Safety Data Sheet