

Environmental Health & Safety Policy Manual

Issue Date: 1/6/2024

Policy # EHS-400.17

Isoflurane Use and Exposure Control Procedures

1.0 PURPOSE:

LSUHSC is committed to keeping all exposures to hazardous materials below statutory or recommended levels.

2.0 SCOPE:

Isoflurane is a halogenated anesthetic gas commonly used in University animal research facilities and individual laboratories. It is a clear, colorless volatile liquid at standard temperature and pressure with a mild ether-like odor. It is known to cause serious eye irritation, and human exposure to waste anesthetic gases has been associated with reproductive effects.

Signs of acute exposure: nausea, vomiting, nose/throat/respiratory irritation, headache, dizziness, drowsiness, skin irritation.

Signs of chronic exposure: hypotension (low blood pressure), tachycardia (increased heart rate), respiratory depression, elevated blood glucose.

In 1977, the National Institute of Occupational Safety and Health established an exposure limit of 2 ppm, for no greater than one hour, on the halogenated anesthetics halothane, enflurane, and methoxyflurane. At the time isoflurane was not in widespread use and even though the indications are that it poses a lower risk than older halogenated anesthetics, the recommended maximum exposure level is 2 ppm.

This document establishes procedures for the safe handling and use of 1-chloro-2,2,2-trifluoroethyl difluoromethyl ether (CAS# 26675-46-7), commonly known as isoflurane or Forane®. It applies to users of isoflurane as an anesthetic in all animal procedures. It specifically seeks to decrease the potential exposure of users to isoflurane through proper use of administrative and engineering controls.

3.0 RESPONSIBILITIES:

Principal Investigators

- Ensure all personnel follow the guidelines listed in this policy and ensure proper techniques and procedures are being used.
- Ensure that the equipment in use is working properly and has been calibrated according to recommendations.
- Ensure isoflurane has been listed as a chemical in use in the submitted IACUC protocol and accurate procedures are described.
- Dispose of unused quantities of isoflurane via the EH&S hazardous waste program.

Environmental Health & Safety (EH&S)

- Perform personal monitoring of isoflurane exposure as deemed necessary.
- Aid Principal Investigators in selecting administrative controls, engineering controls, and personal protective equipment.
- Dispose of unused isoflurane via the licensed hazardous waste contractor.

4.0 PROCEDURES:

Based on the risk associated with the use of waste anesthetic gases, the safety procedures outlined below are required by all Animal Care and researchers when working with isoflurane.

Administrative Controls

- IACUC protocols that include isoflurane should reference these procedures to verify that standard operating procedures are being followed.
- Laboratory personnel who handle isoflurane are required to review these procedures and enclosure 1, Isoflurane Safety Data Sheet (SDS), prior to work.
- EH&S shall be contacted at 568-6585 or safety@lsuhsc.edu for consultation if laboratory personnel exhibit signs/symptoms of isoflurane exposure.

Pre-Procedure Systems Checks

- Weigh scavenger canisters weekly. Each canister has a maximum weight and once the canister reaches this maximum weight, it **must** be disposed of as a hazardous material via EH&S. The disposal weight depends on the size of the canisters. Although the manufacturer's specific guidelines should be followed, in general, small charcoal canisters must be disposed of when increased from

their initial weight by 50g. Large canisters must be disposed of after an increase of 200g. If its weight has increased more than the allowable weight increase for that canister, discard appropriately and connect a new canister to the scavenger line.

- If the isoflurane level is below the fill line, add isoflurane to the vaporizer reservoir using the attachment provided on the isoflurane bottle, closing the bottle and reservoir as quickly as possible. If working outside of a chemical fume hood or ducted biological safety cabinet, a local exhaust system shall be used and located as near the vaporizer as possible.
- If using a compressed gas cylinder, ensure that there is adequate supply of oxygen to last the entire procedure. Ensure that all compressed gas cylinders are safely contained.
- Inspect induction chambers for wear/damage and ensure that gasket seals are in good condition. Tighten all tubing connections, as needed.
- Adjust the stop cock on the y-piece tubing so that the isoflurane/oxygen mixture will flow into the induction chamber, returning to the scavenger canister, and not through the tubing going to the nose cone.
- Leak check system by using a KimWipe air flow test or equivalent.
- Users must wear appropriate personal protective equipment during the procedure. This includes a lab coat/yellow animal care gown, safety glasses and sterile chemical resistant gloves.

Delivery of Anesthesia

- Isoflurane should be used in a well-ventilated room.
- The ideal set-up location for delivery and use of isoflurane in a small animal procedure is inside a chemical fume hood or a ducted biological safety cabinet (Note that “ducted” means connected to one of the building’s ventilation systems. Most biocabinets at LSUHSC are not ducted, they recirculate air after it passes through a HEPA filter). If the vaporizer, nose cone set-up, and the induction box are all located inside a chemical fume hood or ducted biological safety cabinet, no additional controls are needed.
- If any of these components are located outside of the cabinet or fume hood (to include procedures using intubation), a local exhaust ventilation system must be used. EH&S has tested and verified that the local exhaust systems described in enclosure 2 (Sentry Air Systems Snorkel Sentry (lab bench side-mounted snorkel hood), Sky Sentry (wall mounted snorkel hood), and Winged Sentry (desk-top mounted laminar flow hood)) will maintain acceptable exposures if used correctly. Unit

selection will depend on the configuration of the lab space and bench and needs of the researcher. Contact EH&S to obtain a local system and for replacement filters. Filters shall be changed after every 300 hours of use. Some local exhausts contain a built-in use-time counter, which must be reset with each filter replacement. A time log must be maintained to track filter use when using units without built-in counter.

- Barrier class work performed within Animal Care facilities using laminar flow hoods has been evaluated and determined to be a low exposure risk activity. No additional exposure controls beyond the use of the laminar flow hood are required during these activities. Modified barrier activities, performed outside of the laminar flow hood, will require the use of the local exhaust system.
- Bell jars can only be used in a chemical fume hood or a ducted biological safety cabinet for euthanasia as approved in your IACUC protocol.
- Animal care recommends that the isoflurane vaporizer percentage should be 3-5% for induction and 1-3% for maintenance during the procedure. Contact Animal Care for with questions or for further guidance.
- Once ready to induce, place the animal in a clean induction chamber, making sure to close the chamber securely. If working outside of a chemical fume hood or biological safety cabinet, a local exhaust system shall be used and located as near the induction chamber as possible. The local exhaust must be in use when the induction chamber is open.
- When the animal loses righting reflex and its respiration rate slows slightly, turn off isoflurane flow and flush induction chamber with oxygen.
- Remove the animal from the induction chamber and place onto a clean procedure surface; snugly attach a nose cone or intubate then turn the isoflurane flow on. If performing surgical procedure outside of a chemical fume hood or ducted biological safety cabinet, the local exhaust should be situated as close to the procedure as possible and remain in place and active until the isoflurane supply flow is stopped.

5.0 MAINTENANCE OF ISOFLURANE SYSTEM EQUIPMENT

- Precision vaporizers must be calibrated annually by the manufacturer or other authorized party, with verification provided by an attached sticker or other readily accessible documentation.
- Induction chambers and breathing circuits must be appropriately sanitized after each use. Alcohols should not be used for sanitization of induction chambers as it may weaken the structure of acrylic and may cause clouding.

6.0 INJURIES AND SPILLS

- If isoflurane is splashed on an individual or in eyes flush for 15 minutes with copious quantities of water and follow with a medical evaluation.
- For direction with small and large spill clean-ups see Policy EHS-200-02, [Chemical Spill Response Policy and Procedures](#).
- An incident/accident investigation shall be completed subsequent to exposure events. See Policy EHS-400.06, [Incident and Accident Reporting and Investigation](#), for investigation and reporting instructions.

7.0 ENCLOSURES:

1. Isoflurane Safety Data Sheet
2. Sentry Air System Local Exhaust Specification Sheets

This safety data sheet complies with the requirements of:
Regulation (EC) No_1907/2006 and Regulation (EC) No 1272/2008

Issue Date: 12/16/2010

Revision Date: 06/23/2016

Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product Identifier

SOS Number: 1067151
 Product Name: Isorurane USP
 Product Code(s): 4DG9621, 4DQG623, ADG9623, AAOG9621, AADGQ623, ALDG9621, ALDG9623, AV[SO, CANONEISOFILU, DDG9621, DDG9623, FGV15KSBUEK, FOG9623, FDG9623J, FDG9623SE, FDGQ621, FG9621t, IE, FDGQ621f>U, FDGQ621SE, HDG, Q621A, HDGQ621Af>U, HDGQ623, HDG9623A, HDG9623APU, KDG9621, KDG9623, KDG9623PU, LDG9621, LOG8<J21 U, LDG9623, MDG9623, MDG9621, PDG0023, PDG9623PU, TEG5, TEC51SO, Vaf>ORISO, V15KCBUEK, V15KDBUEK, V15.KNBUEK, V15KSBUEK, WDG9623, ZDG9623, ZDG9623V, ZDG9623VS, 091D5554D, 091056541, 28DM3, 280044, 201182.201194, 5 G0021, 5□GII623, 422593, 422705, 8DG9621, 8DG.1623, 6DQG621, 6DG9623, 7DGB,621, 7DG9623, 641500, FDG9621IRI, FDG9623IRI, FDG9621f>, FDGQ623f>, 99U 102282, FDG9621NA, F□GII623NA, 880901133, 880001377, 88D9111378, 881901630, 8819D1771, 9DQG621, 110591040DD, ADG9621, WDG:Q621, F□GII621J, V 15K NBIHK, V 15K SBIHK, V 15PCBIHZ, V15PDBIHZ, V15PNBIHZ, V15f>SB|HZ, V15KCB|HK, V15KDBI K, V15KNBI K, V15KDBIHK, t.136110.. 315991)0025, IBE30D1392, BZDG9621, 2L0404D1FR010D1, CADGQ623, BE3-001441, 2LD40101FRIHlot, I8E30D1497, 2L0401D1F[OOO, 11003025000, 11009D2QOOD, M35D54, FDG9621IRQ, FDG9621III3Y, FDG9621IRN

Synonyms: Fmane
 Iso ura.ne
 Ae...ane
 1-ctlloro-2.2.2, triluoroethyl difluoromethyl ether
Isorrane
 Isovet

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

Product Use: Anesthetic
 Product Type: Regulated for Prescription Drug
 Uses advised against: to inform the user

1.3 Details of the supplier of the safety data sheet

BAXTER HEALTHCARE CORPORATION
 DEERFIELD, ILLINOIS 00015
 0044 1635 206345

E-mail address
 medinfo_emea@baxter.com

1.4 Emergency telephone number

Casechem24 International
 +44 (0) 1235 231167

Section 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Regulation (EC) No 1272/2008

Serious eye damage/eye irritation

Category 2 - (H319)

Reproductive Toxicity

Category 2 - (H361)

Specific lar get or ga11loxioiv ir-eneated exposure}

Category 2 - (H373)

2.2. Label elements

Product identifier

Contact information



Signalword

Warning

Hazard statements

H319 - Causes serious eye irritation

H361 - Suspected of damaging fertility or the unborn child

H373 - May cause damage to organs through prolonged or repeated exposure

Precautionary Statements - EU (1907/2006, 1272/2008)

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P261 - Avoid breathing dusts/fumes/gases/mists/vapors/sprays

2.3. Other hazards

No information available

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Component	EU EINECS List	CAO	Weight-%	EU-GHS Substance Classification	REACH Reg. No
Isopropanol 26675-46-7	247-897-7	26675-46-7	10%	Repr. 2 (H.001) Eye Irrit. 2 (1-13m) STOT RE2 (H373)	Not available

Full text of H- and EUH-phrases: see section 1.6

Section 4: FIRST AID MEASURES

4.1. Description of first aid measures

General Advice	Treat symptomatically and supportively.
Eye contact:	In case of contact, immediately flush eyes with plenty of water, for at least 15 minutes. Get medical attention if irritation develops.
Inhalation:	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
Skin contact:	In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if irritation develops.
Ingestion:	Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately.

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

A dose less than 1 ml is needed to produce anesthesia (approximately 1%) may result in symptoms such as dizziness. See patient package insert in shipping carton for complete information.

4.3 Indication of IDY formulation and special treatment needed

Treatment: See patient package insert in shipping carton for complete information.

Section 5: FIRE FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media:
Use foam or all purpose dry chemical extinguisher.
Extinguishing media which must not be used for safety reasons:
None.

5.2 Special hazards arising from the substance or mixture

None.

5.3 Advice for firefighters

Fire fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full protective gear.

Section 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Depending on local ventilation clean-up crews may need to wear a chemical cartridge respirator with a cartridge for organic vapors. Use suitable protective equipment (Section 8). Follow all fire fighting procedures (Section 5).

6.2 Environmental precautions

None.

6.3 Methods and material for containment and cleaning up

Measures for Containment:
Small volumes of liquid anesthetic agents may evaporate readily at normal room temperatures, and may dissipate before any clean up attempts are initiated. For large spill, one or more bottles break, ensure adequate ventilation or evacuate area. Large volumes of volatile agents may cause sedative effects.
Methods for cleaning up
Rescue persons not wearing protective equipment from areas of spill or leaks until clean-up is complete. Large spills should be absorbed using a sorbent that is designed for clean up of organic chemicals. Spill pillows, vermiculite and carbon-based sorbents are suitable materials. Keep in suitable closed containers for disposal.

6.4 Reference to other sections

See Section 12 for more information.

Section 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Technical measures/precautions: Wash thoroughly after handling.

7.2 Conditions for safe storage, including any incompatibilities

Technical measures and storage conditions: Keep containers tightly closed in a cool, well-ventilated place. Store between 15-30°C (59 to 86°F).

Incompatible materials

None.

7.3 Specific end uses

Other Guidelines: None.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Exposure Limits:

Component	European Union	UK (HSE)	France	Spain	Germany
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Isocorane 266715.-167	Noo,e	None	None	51J ppmTWA Jromolrn" TWA	None
Comoonem	Italv	Portuoial	Nefherl a,ids	Finland	Denmark
Isocorane 266715.-167	Noo,e	None	None	10 ppm TWA 11 mg/m ³ TWA 20 ppm STEL 150 mg/11l STEL	5ppmTINA 38 mg/m ³ TWA
Com?Onent	A.usil-ja	Switzerland	Pol nd	Norwa	Ireland
Isouran 266715.-467	10ppmTWA mg/m ³ TWA 20ppm STEL 160mo.rm SIBL	None	12.mB/m ³ TWA	2ppmMA 15mg/m ³ TWA 2ppm STEL 15 molm ³ STEL	150ppm STEL 1140 mg.m ³ STBL 5C1ppmTWA 3.100 molm ³ TWA
Com?Ineni	Swede,r				
Isocorane 266715 -7	10 ppm TLV BC1mg.m ³ RV 20 ppm STV; 150 mwm ³ STV				

8.2 Exposure controls

Engineering Measures

Use process enclosure. local extraction ventilation. ensure engineering controls to keep airborne levels below recommended exposure limits. Use and maintain scavenging system on the anesthesia equipment (combined with a good general ventilation system) is important in limiting the exposures, fall protection.

Personal protective equipment

Eye protection

Eye protection is required for normal final production use. Safety glasses with side shields are recommended for laboratory use.

Respiratory protection

Personal respiratory protection equipment not typically required. If engineering controls are in place. If exposure levels may exceed recommended limits, implement respiratory protection program including respiratory protection. This is in compliance with OSHA 29 CFR 1910.134 (in the US) or equivalent regulation in other regions.

Hand protection

Use chemical resistant, impervious gloves.

Skin and body protection

Work in fume hood or laboratory coat. Additional body garments should be used based upon the task being performed (e.g., sleeve protectors, apron, gaiters, disposable suits).

Environmental exposure controls

Do not allow material to contact (e.g., ground water) streams.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Formaldehyde basic physical and chemical properties

Physical state:	liquid
Appearance:	Aqueous solution
Color:	Clear. Colorless
Odor:	Pungent. Ethereal. Musty
Odor Threshold:	0.1 ppm
pH:	ND at 1 ppm
Melting point / melting range:	Diastable
Boiling point / boiling range:	48.5°C (113°F)
Flash point:	0.1 ppm
Flammability (solid, gas):	0.1 ppm
Evaporation rate:	Diastable
Flammable limits in air-up to, (%):	0.1 ppm
Flammable limits in air-lower 1%-J:	0.1 ppm
Vapor pressure:	23 mmHg at 20°C (68°F)
Vapor Density:	0.815 (air = 1)
Density:	0.815 g/cm ³ at 25°C (77°F)
Solubility:	Slightly soluble in water.
Partition coefficient (n-octanol/water):	Diastable

All toxic information available
 Decomposition Temperature: information available
 Viscosity: information available
 Explosive Properties: information available
 Oxidizing Properties: information available

Molecular weight: 184.5 g/mole

Section 10: STABILITY AND REACTIVITY

10.1. Reactivity

No data available.

10.2. Chemical stability
 Stable under recommended storage conditions

10.3. Possibility of hazardous reactions

Polymerization: not applicable
 Hazardous Reactions: none known in normal process

10.4. Conditions to avoid

Do not freeze.

10.5. Incompatible materials

Peroxides, ...

10.6. Hazardous decomposition products

These products are hydrogenated compounds (hydrochloric and hydrosulfuric acids), Phosgene.

Section 11: TOXICOLOGICAL INFORMATION

Component	Inhalation LC50, mg/L (Rat) 5 min	Dermal LD50, mg/kg (Rat)	Oral LD50, mg/kg (Rat)
Isoflurane	15300 ppm 3 h		4770 mg/kg

11.1. Information on toxicological effects

Acute Toxicity
Inhalation: Practically non-toxic by inhalation. Cardiovascular effects (may include fluctuations in heart rate, changes in blood pressure, chest pain). Respiratory effects (may include shortness of breath, bronchospasm, laryngospasm, respiratory depression). Gastrointestinal effects (may include nausea, upset stomach, loss of appetite). Nervous System effects (may include ataxia, tremor, disturbance of speech, lethargy, headache, dizziness, blurred vision).
Eye contact: May cause eye irritation.
Skin contact: May cause skin irritation.
Ingestion: Practically non-toxic if swallowed. No specific hazards other than therapeutic effects. See literature.

Unknown Acute Toxicity

Unknown acute toxicity: 100% of the mixture consists of ingredient(s) of unknown toxicity.

Acute Oral Toxicity: 0% of the mixture consists of ingredient(s) of unknown acute oral toxicity.
 Acute dermal toxicity: 100% of the mixture consists of ingredient(s) of unknown acute dermal toxicity.
 Acute inhalation toxicity - gas: 100% of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas).
 Acute inhalation toxicity - Vapor: 100% of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor).
 Acute inhalation toxicity - dust/mist: 100% of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist).

The following values are calculated based on chapter 3.1 of the GHS document.

ATEmix (oral) 4.75-5.19 mg/kg

Irritation: Irritating to eyes. Mild skin irritation.
 Corrosivity: Not classified.
 Sensitization: Not classified.
 Mutagenic effects: Not classified.
 Carcinogenic effects: No drug related carcinogenic or tumorigenic effects based on animal data.

Component	ACGIH	IARC	NW	OSHA	EPA/NIH Carcinogen Information	JK
Isolurane 26675-46-7		Group 3				

Reproductive toxicity: No effects observed in fertility studies based on animal data. Epidemiological studies suggest higher than normal incidence of problem pregnancies (particularly spontaneous abortions) among exposed personnel.
 STOT - single exposure: Not classified.
 STOT - repeated exposure: Not classified.
 Aspiration Hazard: Not classified.

Section 12: ECOLOGICAL INFORMATION

Component	Ecotoxicity - Water Flea Data	Fish Species Ecotoxicity	Ecotoxicity - Freshwater Algae Data	Ecotoxicity - Microtox Data
Isolurane 26675-46-7	None.	None.	None.	None.

12.1. Toxicity

No information available

12.2. Persistence and degradability

No information available.

12.3. Bioaccumulative potential

No information available

12.4. Mobility in soil

No information available

12.5. Results of PBT and vPvB assessment

This substance is not considered to be persistent, bioaccumulative (PBT). This substance is not considered to be very persistent nor very bioaccumulative (vPvB).

12.6. Other adverse effects

This product does not contain any known or suspected endocrine disruptors.

Section 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste treatment residues/unusable products
 In accordance with local, and national regulations
 Contaminated Packaging
 In accordance with local, and national regulations.

Section 14: TRANSPORT INFORMATION

IMDG/IMO

14.1 UN-No: Not regulated.
14.2 Proper Shipping Name: Not regulated.
14.1 Hazard Class: Not regulated.
14.4 Packing Group: Not regulated.
14.3 Marine Pollutant: Not applicable
14.6 Special Provisions: None.
14.7 Transport in bulk according to the IMDG Code and the Annex II of MARPOL 73/78 and the IBC Code

Rm

14.1 UN-No: Not regulated
14.2 Proper Shipping Name: Not regulated
14.1 Hazard Class: Not regulated
14.4 Packing Group: Not regulated
14.5 Environmental Hazard: Not applicable
14.6 Special Provisions: None

ADR B. Part Transport

14.1 UN-No: Not regulated
14.2 Proper Shipping Name: Not regulated
14.1 Hazard Class: Not regulated
14.4 Packing Group: Not regulated
14.5 Environmental Hazard: Not applicable
14.6 Special Provisions: None

IATA UN Numbers-

14.1 UN-No: UN3334
14.2 Proper Shipping Name: Aviation regulated liquids (Isoprene)
14.3 Hazard Class: Q
14.4 Packing Group: Not regulated
14.5 Environmental Hazard: Not applicable
14.6 Special Provisions: None

Section 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations classification specific for the substance or mixture

International Inventories

EU EINECS List: This product complies with EINECS

Legal

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

15.2. Chemical safety assessment of

No

Section 16: OTHER INFORMATION

Full text of H-statements referred to in section 3
H361 - Suspected of damaging fertility or the unborn child if inhaled
H310 - Causes severe eye irritation
H373 - May cause damage to organs through prolonged or repeated exposure if inhaled

Section 8: EXPOSURE CONTROL PERSONAL PROTECTION

TWA (time-weighted average)	STEL (Short term Exposure Limit)
Ceiling	Sk. in design.

Additional information:
N/A Available.

Key literature references and sources for data:
www.ChemADVISOR.com/

Prepared by	Baxter Research & Development
Issuing Date:	12/11/2011
Revision Date:	06/23/2016

This data sheet contains changes from the previous version in see (links):
New GHS format. Changes to Section 1. Changes to Section 9.

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although, certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

End of Safety Data Sheet

Model 200 Sky Sentry

Model # SS-200-SKY

Product Specifications

BASE UNIT DIMENSIONS

11.05" Hgt.,
 8" Wd., Not (Deluding 1'ounting B.rs,c,k.ets
 11.05" Hgt.,t

ARM DIMENSIONS

3" Dia. x 55" to 115" Di . Rotmd Hood)

CABINET MATERIAL

11.6 ga. Galbor, Steel

WEIGHT

Approx. 15 lbs.

AIR VOLUME

Up to 100 CFM. *Varies with filter media.*

ELECTRICAL

115V/60, Approx. 0.2 A
 220V/50, **Approx. 0.2 Amps.**
 8'g' Oulldle-d pDlIfel cord wlll **NEMA 5--1.5P Pt11g**

SOUND LEVEL

Approx. 56 dba @ 2' from - let

FILTRATION

Dependng on tte Application:

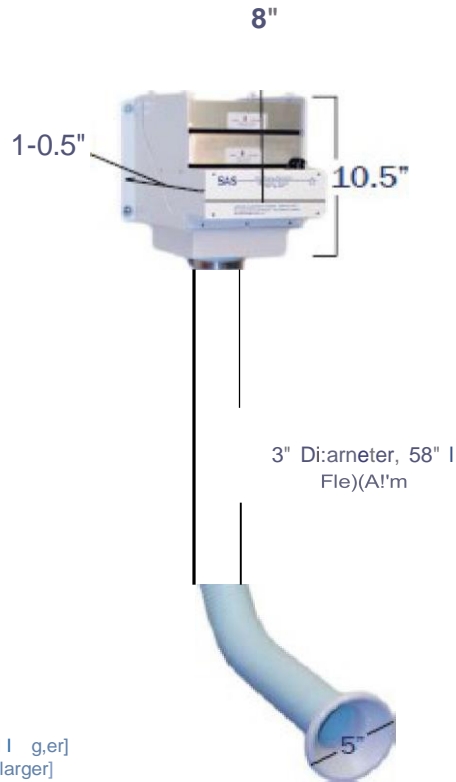
- HEPA [to 99.11% efficient on particle, a 0.3 microns nd l g,er]
- ASHRAE [l l p to 95% efficient on partic- 0.5 microm d larger]
- AGT\AHD CARBON
- SPECIALTY-BL-ENDED FILTER: MECIA [i.e. Acid Gas, Meacury, Atdel,yde., Ammoni]

WARRANTY

Lim- ed tw-o-ye r w- ranty from *date* of i.h- pment on
 delect: s due ta materi ls or worknm&hip,
 PATENT -#5,843,1.97

Product Features

- Self-Supportive 58" L IFlex Arm *Included*
- Quiet Operation
- WafJ Mom1trng Brackets *incl1,1ded*
- Simple, Quiek '1No Tool' IFilter Change
- Reliable, Low Mainten nee Operatiol\
- Long Hiter Life
- ..So,a[l FoatPild
- Optio111al '11.riable Speed Control,e,r
1111.SVooly)
- **O,ptional Hour C:outer**



DiIne'111SiDns .re' pro:tiIiite

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 -angng, sem-s e e:c tha,tcan ea • be manew-erea - tle Dperstar ID ttleir desired
 loeajj, on_ Insts ation is ade eas-1 w1t1- tile in.:luctea 11ra11-mo11ntingit and, ll t.a :e up -riim 5pace_

ypics applicsjj,ons iru:uae: 5olaering r.umes, pMtioo te, rem'Otal Df Drgs:nic \, p,lH'S, sDIVent arid epDX'f
 iUtnes, chem:ical fillmes., t ng, and variows otler ind:lstrlal pro=ses Yihere e, w-slj r nD111'rtled fume
 extracmr is nee<fed.

Deperiang appliCcl!ion, 5ever filte-111:Dmtinations 11:a lbeed. l > ca, filtration medi i 11:lucte:
 HEPA.[Yp:ID BQ.97o/oeffi:eJtto rticles 0-3-microns nd _ger), "SH.R.IJIEll ta 95%efficien"ton J:113rtiles
 0.5 mi.:rons ana large,rj, <J.ctiVBted C8rbDn, and spe.:iElty-blended filtration m e, [i . hoid Gas, erCNRj,
 Aldehyae, <J.mm] - l-

mis 511:y 5e111q Filrme Extractor c,o:mtiines quiet operati ener@ce ,Client teQJmDJo&., and a uni ue
 mo-11r,t_r_g optio: 11'at 01,e,ates an e.'fert!Te silllutiD ED rnal.'J'J applic,ations tlat require filrme pe,rti -
 remDl t

La[lller models s:re a\ able [Ss-300-Siff & SS,400-SifY]-



1_800_799_4609
 www_serihyair_com
 sales@sentryair_com

MADE IN
 irHE I.U.S.A
 Hou.,.roo. TIC

Fume & Particulate Removal

Model 20,0 Snorkel Sentry

Model # SS-200-SS

Product Specifications

BASE UNIT DIMENSIONS

10.5" Length
 9" Width
 10.5" Height

HEIGHT STAND

Adjustable up to 10.5" H

ARM DIMENSIONS

3" Diameter, 33" Long 15" Dia. Round Head

CABINET MATERIAL

High Quality Carbon Steel

WEIGHT

Approx. 18 lbs.

AIR VOLUME

Up to 1.00 CFM. Varies with filter media.

ELECTRICAL

115/1/60, Approx. 0.3, Amps
 220/1/50, Approx. 0.2 Amps
 Standard power cord with NEMA 5-15P Plug

SOUND LEVEL

Approx. 56 db @ 3' from inlet

FILTRATION

Depending on the Application
 • All EPA [up to 99.97% efficient on particles 0.3 micron and larger]
 • ASHRAE [up to 95% efficient on particles 0.5 micron and larger]
 • ACTIVATED CARBON
 • SPECIALTY-BLENDED FILTER MEDIA [Oil Gas, Micro 110, HAP, Ammonia]

WARRANTY

Limited two-year warranty from date of shipment on defects due to materials or workmanship.
 PATENT#5,843,197

Product Features

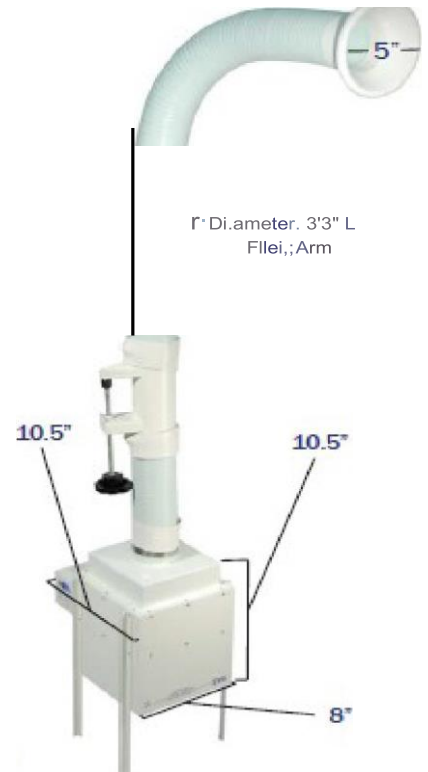
- Self-Supportive 33" L Flex Arm Included
- High Quality Portable and Lightweight
- Reliable, Low Maintenance Operation
- Adjustable Height Stand Included
- Quiet Operation
- Optional Variable Speed Control (1.5:1 ratio)
- Simple, Quick "No Tool" Filter Change
- Option 1 Hour Gougeon

The Snorkel Sentry is a lightweight and portable fume extractor, equipped with an adjustable height stand and a "no-tool" mounting bracket so the unit can easily be secured to tables and other work surfaces. The unit's self-supporting flex arm allows optimum source capture placement by the operator.

Typical applications for this unit include desoldering, chemical fumes, tight grinding, solvent and epoxy fumes, pharmaceutical powders, dust, and many other procedures that emit fumes and particulate.

This unit is customized with filtration media that specifically meets your individual application and typical pollutants: EPA filters [up to 99.97% efficient on particles 0.3 microns and larger, ASHRAE filters up to 95% efficient on particles 0.5 microns and larger], Activated Carbon, and specialty-blended filtration media, [i.e. Acid Gas, Mercury, Aldehyde, Ammonia].

The Snorkel Sentry provides a highly energy-efficient, quiet and economical solution to many fume extraction needs.



Dimensions are in parentheses



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MADE IN U.S.A.
 HOUSTON, TX

Fume & Particulate Removal

Model 200, Wing'ed Sentry

Model # SS-200 WS

Product Specifications

BASE DIMENSIONS

8.5" L x 8" W x 10.5" H

WORK AREA DIMENSIONS

9" Cl x 2.15" W

AIR VOLUME

Up to 100 CFM. Varies Mfh filter media.

WEIGHT

Approx. 12 lbs.

CABINET MATERIAL

16 g.i. Carbon steel

ELECTRICAL

115V/1,160, Approx. 0.3 Amps

220/1/50, Approx. 0.2 Amps

8' grounded power cord

Y101 NEIMA 5-15P Plug

SOUND LEVEL

Approximately 58 OBA at 3' horn inlet

FILTRATION

Dependent on the Application:

- **HEPA** [up to, 99.97% efficient on particles 0.3 microns and larger]

- **ASHRAE** [up to, 95% efficient on particles 0.5 microns and larger]

- **CARBON**

- **SPECIAL TV-BLENDED FILTER MEDIA**

WARRANTY

Limited two-year warranty from date of shipment on

defects due to materials of workmanship.

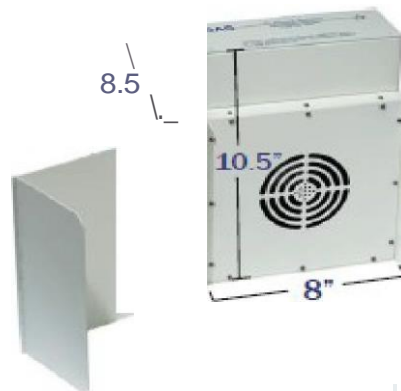
PATENT #5,843,197

Product Features

- Infinitely Adjustable "Wing Flaps"
- Highly Portable and Lightweight
- Reliable, Low Maintenance Operation

- Quiet Operation
- Simple, Quick "No Tool" Filter Change
- Long Filter Life

- Sturdy Construction
- Optional Variable Speed Controller (115V only)
- 111 Optional Clear Acrylic Lid



Dimensions are Approximate

The **Model 200, Wing'ed Sentry** is a compact, portable, fume extraction unit that offers a unique solution for fume removal. It features adjustable "wing flaps" to assist in directing fumes into the filter. The operation is simple and reliable, making it ideal for various applications.

Applicable to most industrial fume extraction applications, the Model 200, Wing'ed Sentry is a compact, portable, fume extraction unit that offers a unique solution for fume removal. It features adjustable "wing flaps" to assist in directing fumes into the filter. The operation is simple and reliable, making it ideal for various applications.

The **Winged Sentry** is a compact, portable, fume extraction unit that offers a unique solution for fume removal. It features adjustable "wing flaps" to assist in directing fumes into the filter. The operation is simple and reliable, making it ideal for various applications.

An optional motor speed controller is available for the Model 200, Wing'ed Sentry. This unit is available in a more compact design.



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