

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, minimizing to the lowest achievable levels the risks of adverse health and safety outcomes associated with these exposures.

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. Isoflurane vapors are heavier than air. A harmful contamination of the air can be reached very rapidly on evaporation at 20°C.

The anesthetic gases that leak out and into the surrounding room during medical procedures are considered waste anesthetic gases. Waste anesthetic gases are known to cause serious eye irritation, and human exposure to waste anesthetic gases has been associated with liver and kidney disease and reproductive effects.

Signs of acute exposure include CNS effects (nausea, vomiting, headache, dizziness, drowsiness, confusion), nose/throat/respiratory irritation, and skin irritation.

Signs of chronic exposure include 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 potential user exposures through proper use of administrative and engineering controls.

3.0 RESPONSIBILITIES:

Principal Investigators

- Ensure all personnel are aware of the hazards of isoflurane use and trained by qualified personnel to follow the guidelines listed in this policy, explicitly implementing proper safe handling and exposure control techniques and procedures.
- Ensure that the equipment is working correctly and calibrated according to the manufacturer's recommendations.
- Identify isoflurane as a chemical used in any submitted IACUC protocol.
- 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, which include isoflurane use, should reference this policy's standard operating procedures.
- Laboratory personnel handling isoflurane must review these procedures and enclosure 1, Isoflurane Safety Data Sheet (SDS), prior to work.
- If laboratory personnel exhibit signs or symptoms of isoflurane exposure, EH&S should be contacted at 568-6585 or safety@lsuhsc.edu for consultation.
- EH&S recommends avoiding the use of isoflurane if pregnant or trying to become pregnant. At minimum, use should occur only after consulting with a physician.
- EH&S strongly recommends that isoflurane use always be in the presence of two or more persons.
- Immediately stop any procedures if the isoflurane odor is detected or the user experiences any acute exposure signs or symptoms. Notify EH&S immediately to evaluate if either occurs. Work shall not re-commence until approved by EH&S.

Pre-Procedure Systems Checks

- Weigh scavenger canisters weekly. Each canister has a maximum weight, and once it 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. Small charcoal canisters must be disposed of when their weight increases by 50g. Large canisters must be disposed of after an increase of 200g. If its weight has increased more than the allowable increase for that canister, discard it immediately and connect a new canister to the scavenger line.

- Verify the isoflurane fill level in the containment reservoir prior to commencing work. 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, use the EH&S provided local exhaust system, locating it as near the vaporizer as possible.
- If using a compressed oxygen cylinder, ensure an adequate supply is available to last the entire procedure.
- 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, which includes a lab coat or yellow animal care gown, safety glasses, and sterile chemical-resistant gloves.

Delivery of Anesthesia

- Isoflurane use should always be 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 cabinets at LSUHSC are not ducted and recirculate air after it passes through a HEPA filter). No additional controls are needed if the vaporizer, nose cone set-up, and induction box are inside a chemical fume hood or ducted biological safety cabinet.
- Use an EH&S-provided local exhaust ventilation system if either the vaporizer, nose cone set-up, or induction box are located outside of the cabinet or fume hood (to include procedures using intubation). 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)) are able to maintain exposures below allowable limits when used correctly. Unit Selection will depend on the lab space and bench configuration and the researcher's needs. 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 a 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 and between the users. 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 the isoflurane flow and flush the induction chamber with oxygen until confident the chamber has been purged of isoflurane.
- 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. Alcohol should not be used to sanitize induction chambers, as it may weaken the structure of acrylic and cause clouding.

6.0 INJURIES AND SPILLS

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

7.0 ENCLOSURES:

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

Baxter

SAFETY DATA SHEET

This safety data sheet complies with the requirements of:
Regulation (EC) No 1907/2006 and Regulation (EC) No 1272/2008.

Issue Date: 12/16/2016

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: Isolururu. USP
Product Code(s): 4DG9621. 4DGQ623. ADG9623. AAOG9621. AADG Q:623. ALDG9621. ALDG9623. AVISO, CANONEISOFILU, DDDG9621, DDG9623, FGV15KSIBUEK, FGQ9623, FDG9623J, FDG9623SE, FDGQ621, F G9'621t, 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, V15KNBUEK, V15KSBUEK, WDG91123, ZDG9623, ZDG9623V, ZDG9623VS, 091D5554D, 091056541, 28DM3, 280044, 201182, 201194, 5 G0021, 5GII623, 422593, 422705, 8DG9621, 8DG.I623, 6D GQ621, 6 DG9623, 7D GB, 621, 7DG9623, 641500, FDG9621RI, FDG9621f>, FDGQ623f>, 99U 102282, FDG91121NA, F GII623NA, 880901133, 880001377, 88D9111378, 881901630, 8819D1771, 9DGQ621, 110591040DD, ADG9621, WDG:Q621, F GII621J, V 15KNBIHK, V 15KSBBIHK, V 15PCBIHZ, V 15PDBIHZ, V 15PNBBIHZ, V15f-SBIHZ, V15KCBJHK, V15KDBI K, V15KNBI K, V15KDBIHK, t.136110.. 315991)0025, BE30D1392, BDG9621, 2L0404D1FR010D1, CADGQ623, BE3-001441, 2LD40101FR1H0t, 18E30D1497, 2L0401D1F(OOO, 11003025000, 11009D2QOOD, M35D54, FDG9621IRQ, FDG9621IIIY, FDG9621IRN

Synonyms: Frane
Iso ura.n.e
Ae.-ane
1-ctlloro-2.2.2, trilruoroethyl difluommethyl elher
Isorane
Isovet

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

Product Use: Anesthetic
Product Type: Regulated for prescription only
Uses advised against: Not to info:nmatiD.flavaalJe

1.3 Details of the supplier of the safety data sheet

BAXTER HEAL HCARE CO PORATION
DEERF[ELD, [LJLINOIS 00015
0044 1635 206345

E-mail address
medinfo_emea@ba>teu:om

1.4 Emergency telephone number

Ca:rechem24 Inrl:emotional
+44 (0) 1235 2311 67)

Section 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Reclassification EC No 1272/2008

Serious eye damage/e -irritation

Category 2 - ,(H319)

Reproductive Toxicity

Category 2 - (H361)

(specific clar.get or ga11loxicity ir-peated exposure)

Category 2 - (H373)

2.2. Label elements

Product Identifier

Contatns Isoflu:ra.ne



SignalW01d

Warning

Hazard Statement

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 1§28, 12721/2008

P28D- Wear protective gloves/protective clothing/eye protection/face protection

P26D- Do not breathe the dust/fume/gas/vapour/spray

2.3. Other hazards

No information available

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Component	EU EINECS List	CA o	Weight-%	EU-GHS Substance Classification	REACH Reg. No
Isooort:ane 26675-46-7	247-897 7	26675-46-7	10□	Repr. 2 (H.001) Eye irrit. 2 (1-13m) STOT RE 2 (H373)	No data available

Full text of H- and EUH-phases: see section 1+6

Section 4: FIRST AID MEASURES

4.1. Description of first aid measures

General Advice:

Treat symptomatically and supportive.

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:

Inhalation. 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 1hai 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 why further debate needed and special treatment needed

Treatment symptoms. 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 chemicals or carbon dioxide.
Extincting media which must not be used for safety reasons
No ignition possible

5.2 Special hazards arising from the substance or mixture

No information available

5.3 Advice for firefighters

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

No information available

6.3 Methods and material for containment and cleaning up

Mitigation for containment:
Small volumes of low octane number agents may evaporate readily at normal room temperatures, and may dissipate before any clean up attempts are initiated. For large spills, one or more bottlenecks to break. Ensure adequate ventilation or evacuate area. Large volumes of aromatic agents may cause sedative effects.

6.4 Methods for cleaning up

Respect persons not wearing protective equipment from areas of spills or leaks until cleanup 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 soils are some suitable materials. Keep in suitable, closed containers for disposal.

6.5 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 (51°F to 86°F).

Incompatible materials

No special restrictions on storage with other products.

7.3 Specific end uses

Other Guidelines: None.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Exposure limits:

Component	European Union	IUOEILMEL	France	Spain	Germany
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Isoooran€! 2667!5.-167	Noo,e	None	None	51J.ppmTWA Jromoln" TWA	None
Comoonem	Italv	Portuoial	Nefherl:a,ids	Finland	Denmark
Isoooran€! 2667!5.-167	Noo,e	None	None	1□ppm TWA n mgJ.m·TWA 20 ppm STEL 150 mgJ11" SIEI	5ppmTINA 38 mgJm TWA
Com?Orient	A.usll-i:a	Switzerland	Pol nd	Norwa	I'reland
Isoiruran€! 26675-467	10ppmTWA mg/m" TWA 20ppm SfEL 16□mo.rm SIBL	None	'J2.mBl'm' TWA	2ppmMA 15mgJ.m" TWA 2ppm STEL 15 mofm' ST'Ell	150ppm STEL 1140 mg.Jm· STBL 5ClppmTVA 3.100 mofm" TWA
Com?!)nenl	Swede,r				
Isoooran€! 26675 -7	10 ppm TLV BCImg;:m' RV 20 ppm STV: 150 mmw'STV				

8.2_Explosive characteristics

Engi1ee,i11.g Measures

Use process enclos,u.-es. local exroausi ventillation..m->the, e11grneering oonirals io keep armrne levels below recommended e:qiosmemits_V'ell des'Jned and main.tamed scavengng system on the anesthesia equipmer11i (comt>ined **with** a good general rDDfil ven atiDJI] is anportant in li'miting the exposLires,,,fall pe;rsor,nel_

Persona! protective equipment

Eye pr.olect011

Eyeprote<>lion n1>t required for n,ooma1 final prodLJat U1Se. Safety glasses with socte-<Stields are r:eeommem:f.ed for [abor.a11.ory al!d ms.nuia urin.g use.

Respiratory protection

Pe.sonai respiratory p:rot€!ction equ(pment no typi<>ally requi,ed If engineerng controls are in place. If ..xposLire levels may e,oeed regLilitato:rym'its. impl€lme:n", respla:io:y protection program rnccludinJ resspiraloy pmtection11thl3t is [n compli.ance wjth OSHA 29 CF 191O_134 (in th:e US) or equivalen[,egul.alion in uthe.-regions_

Hand ,prote<>tion

Use chemical re's,slant, impeoviou:s +Gloves_

Skin and body pmledJio 11

Work. unfmm or labrao:iy coat. AdditiDna! body ganments sh.DUI<:ibe U1sed based upon lie task bering p€!• nmmed (e.,g., sleeve-1€!ts. apran, gaLJ11tlets, disposab_ suits).

|Environmen tal ec>,posure co nirols

Do nm alrow material to cDntaminai.e g.,oimd waterS)'Stem.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1_1fformatio11o11 basic physieal and ch€lmlcal frc>pertieIs

Physical stale:

li,iuid

Appearance:

Aqueous sDlurtion

Color:

Clear. Codorfess_

Odor:

PImgmt. Elh.ereal Musty_

Odor Th,es hold:

o i1fonmation avaabi!

pH:

NDt a1Pplica.t>1.

Melting point / melting ranue:

Diavailable

Boiling point / boiling range:

48.5°C (11Q_3°F)

Flash point:

o i1fonmation avaabi!

Flammability (solid, gas):

o inJfonmatio.n ava abi!

Evapo ,atio11 ra.te:

Di available

Flammable limits

o i1fonmatio.n avaable

in air-up pee, .%|:

o inJfonmatio.n avaabi!

Flammable limits

23B mmHg at 2o+c (fl;ll".F)

in air-lower 1%-J:

o i1fonmation avaabi!

Vapor pressure:

I -496 gfom3 a.t 25°C (72°F)

Vapor Density:

S 1qh.tl'.'so[ub[e rn water.

De,nisly:

Di available

so 1ubility:

Partition co-effi c:ient

(n-octan ol/11:a.ler):

A11toig ritio ri tem pera.t11re:
i) ecomp ositio n Temperat11re:
Viscosity:
Explosive Propernes:
Oxidizirig Properties:

tlio information ava able
o information ava able
tlot available
o information ava B.ble
o information ava able

9.2.0117 er ilio rmatio n
Molec11lar weight: 184.5 gfmole

Section 10: STABILITY AND REACTIVITY

10.1. Reactivity

No dab
Sc11available.

10.2. Chemical stability

Siable llnder r-ecommencfed storScge condilians

10.3. Possibility of hazardous reactions

Polymeriza.fion t-lot appl:cable
HaZardous Reactio ns one 11ncfe:rno:mel p:roce ssfag

10.4. Conditions to avoid

Do no icerze.

10.5. InDDOrD-p.i3tible rmaterials-

Peroxide;_

10.6. I-lazardo11s decomcwstion products

These products are halogenated com;poluuls (hydrochloric and hydm 11ric acids), Phosgene.

Section 11: TOXICOLOGICAL INFORMATION

Com nenl	Inhalation LC51J, 15300 ppm 3 h (Ra,I) 5!!..5 qfrn' 4 h	Dermal U)SO	OraILD51J, =4770 pUT<g / Rat 1
IsoBurane	at)		

11.1. Information on toxicological effects

Aoute Toxi<ity

Inhalation: Practically non-toxic by rn'hala..m. Cardiov,scular effects (may include fiu:cttialions in heart rate, chang es in blood pressure, ches,t parn). Res:ptratory effects (may mclude shortness a-breath, bronclmsp81Sms. laryngospa,sms. re sp:i:atory depression). Gastroin'es nal effects (may include nausea, Lipset stomach, loss of e:ppern.e). Ne;rva11s System effects (may include alax,a, irernor, disturbanceaeo. speech., lethargy, headache, di=iness, bl11recj viision).

Eye contact:

May cause eye irritation.

Skin contact:

May cause skin irritation>.

Ingestion:

Practicaa non-toxic if swa□owecj_No specifi:chaz.ardls o1!her than there:peutic effects" See in.hata-an.

Unknown Aoute Toxicity

Unkn own .!l.oute Toxicity 1OD % , of the mi:clure consists of ingredient(s) of unknown mxicity.

Acute OralToJCiicity

0% o :the mixiture consists mgredient(s) of un ncmn acute oral toxic'ey

Acute dwmail toxicity

,1 D % of the mil-ure consis,is of ingredient(s) "mknown acute dennal ta,icity

Acute inhalation,toxicity - gas

1 D %, of the mixiture consis1Sof ing nt(s) mknown acute mhala.ion toxicity (gas)

Acute inhal3tion,toxicity - V:apor

UM-., of the moolure consis1Sof ing ent(s) mknown acute mhala.ion toxicity (*apar)

Acute inhal ation toxicity - dust'l'm ist

UM-% at the mixiture consis1sof ingredient(s) a mknown acute mhala.ion toxicily (du stlmis1)

The following values are <>calculated based on cha,pter 3.1 of the GHS document.

ATEmix (oral)

4.75<.!!9 mg!!;g

Irritation: Irritating to eyes. May cause irritation.
 Corrosivity: Not classified
 Sensitization: Not classified
 Mutagenic effects: Not classified
 Carcinogenic effects: o drug related carcinogenic effects based on animal data.

Component	ACGIH	IARC	NW	OSHA	EIUArme I Carcinogen Information	IJK
Iosulfuran 2M75-46-7		Group 3				

Reproductive toxicity: o fertility based on animal data. May be teratogenic in humans, doses based on animal data. Epidemiological studies suggest higher than normal incidence of problem pregnancies (particularly spontaneous abortions) among exposed personnel.
 STOT - single exposure: o classified.
 STOT - repeated exposure: live: o classified.
 Aspiration Hazard: o classified

Section 12: ECOLOGICAL INFORMATION

1Com1>one11t	Ecotoxicity - Water Flea Data	Fish Species Ecotoxicity	Ecotoxicity - Freshwater Algae Data	Ecotoxicity - Microtox Data
Iosulfuran 2M75-46-7	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, bioaccumulating no, toxic (PBT). This substance is not considered to be very persistent nor very bioaccumulating (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 from residues/unsold 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 5hir,pin[1 Name Not regulated.
 14.1 I-laza,d Class Not regulated.
 14.4 Packing Grour, Not regulated.
 14. !; Ma,ine Pollutant Not applcable
 14.6 Sr,E>cial Provisions one.
 14.7 T,amsport in bulk acco,ding to, Noirlifo:rmatiD'.1a1va
 able Annex II of MARPOL 73.f78 and the
 IBC Code

Rm

14.1 UN-No Not regulated
 14.2 Proper 5hir,pin[1 Harne Not regulated
 14.1 Haz.a,d Cl3Lss Not regu ated
 14.4 Packing Grour, Not regulated
 14.5 En..-ironme,11al ha.eard ot a;pp cable
 14.6 Si>""al Pro|vision s None

ADR Boat Transport

14.1 UN-No Not regulated
 14.2 Proper 5hir,pin[1 Harne Not regulated
 14.1 Haz.a,d Cl3Lss Not regulated
 14.4 Packing Grour, Not regulated
 14.5 En..-ironme,11al haz:ard Not applicable
 14.6 SpE>cial Prvisions None

IATA UN Numbers-

14.1 UN-No UN3334
 14.2 Proper 5hir,pin[1 Harne Aviation regulated liquoclno.s. (Iso unne)
 14.3 Haz.a,d Class Q
 14.4 Packing Grour, Not regulated
 14.5 En..-ironme,11al haz:ard Not applcable
 14.6 SpE>cial Pro|visions None

Section 15: REGULATORY INFORMATION**15.1. Safety, health and environmental regulation11sJ11ei:iislalion spe_cific for the substance o_mixture****International Inventories**

EU EINECS Lisi This produc complies wnh EINEGS

I,Jege,m:

EINECS/EI.JINCS - European Imrento.y of Exi,:ting Chemical Substanees/European Li>t of Notified Chemical Subst3ncecl

15.2. Chemical sete:ty a5aes-s-mie-ot

No

Section 16: OTHER INFORMATION

Full text of H-5tatE!ments refe,rrE!d loo undE!, section 3
 H361 - Su,!>pected .ofdamagjn[! fertility oThe unborn chid if i.nha d
 H31Q - Causes sellou!>eye irrmition
 H373 - May cause damage to org ans through prolonged or repealed eJGPosure if inhaled

LE!QE!nd Section 8: EXPOSURE COHTROL5PERSONAL PROTECTION

TINA	TWA (time-weig i,ted average)	STEL	TEL (Short e:rm Exposu e Limit)
Ceilng	Ma.:imum limit value		Slk.in designs.tiDn

Additional information:
Not Available.

Key lite,-afu.-e .-efe.-ences ,ond sources.for da.fa
"www.ChemADVISOR.com/

Prepared by Ba ter Research & Development
Issuing Date: 1211&2011)
Revision Date: 06/2/312016

This data sheet contains changes from O,e previous version in see>lionls}:
New GHS fo:rmat. Ch.anges to Section 1. Ohariges 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 company nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of SJU liability for 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 do not guarantee that these are the only hazards that exist.

End of Safety Data Sheet

Model 200 Sky Sentry

Model # SS-200-SKY

Product Specific.ation

BASE UNIT DIMENSIONS

JL.0.5- leDgtl,
S- W-rdU,, Not {Deluding 1'ounting Brs,c,kets
JL.0.5- Heigt,

ARM DIMENSIONS

3" Dia. x 55" lo11g15" Di . Rotmd Hood

CABINEJ MATERIAJ

JL.6 ga. G:albor, Steel

WEIGHT

Apprnl.: 15 lbs.

AIR.VOLUME

lip to 100 C:FM. Varies with filter medra.

ELECIRICAL

1.'15"/Jl/60, Approx. 0.3
220/.!../50, Approx. 0.2 Amps.
8"gl"OJidle-d pDlfeI cordl will NEMA 5-1.5P Pt11g

SOUND LEVB.

Approx. 56 dba @ :2' trom- let

FILTRATION

Depending on t.e Application:

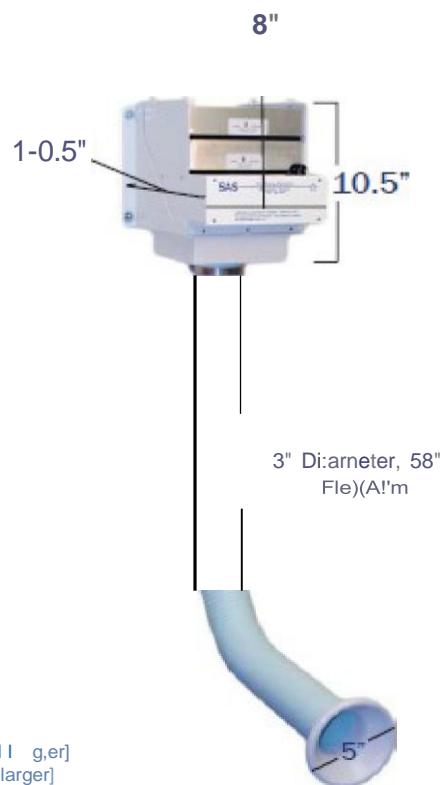
- HEPA [to 99.11% efficient on particle,a 0.3 microns and l g,er]
- ASHRAE [11p to 95% efficient on particl- 0.5 microM d larger]
- AGTII/AHD CARBON
- SPECIALTY-BIL.ENDED FILTER: MEClIA [i.e. Acid Gas, Meacury, Atdel,yde., Ammoni]

WARRANTY

Lim-ed tw.o-ye r w- rantytrrom date of i.h-pment on
delecl:s due ta materi ls or workrnim&hip,

PATENT -#5,843,.1.97

Dilne'.11SiDns .re pro:tilTiiite



Product Features

- Se[fc-Supportive 58" L IFlex Ami Included
- WafJ Mom1trng Brackets ircl1,1ded
- Reliable, Low Mainten nee Operatioll
- Quiet Ope.ration
- Simple, Quiek '1No Tool" IFilter Change
- Long Hiter Lile
- .S□,a[I FoatpTild
- Optio111al '11.variable Speed Controle,r
- 1111.SVooly)
- Optional Hour Couuter

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La[ller models s:re a| able [Ss-300-Slf & SS,400-SlfY]-



1_800_799_4609
www_serihyair_com
sales@sentryair_com



Fume & Particulate Removal

Model 20,0 Snorkel Sentry

Model # SS-200-SS

Product Specifications

BASE UNIT DIMENSIONS

10.0" Length
9" Width;
10.0" Height

HEIGHT STAND

Adjustable up to 10.5" H

ARM DIMENSIONS

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

CABINET MATERIAL

16 ga. 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
Single-grounded power cord with NEMA 5-15P Plug

SOUND LEVEL

Approx. 56 dB @ 3' from inlet

WARRANTY

Limited two-year warranty from date of equipment purchase due to materials or workmanship.

Product Features

- Self-Supportive 33" L-Style Arm Included
- Tool-Free Mounting Bracket Included
- Adjustable Height Stand Included

- Highly Portable and Light-weight
- Quiet Operation
- Simple, Quick "No Tool" Filter Changeover

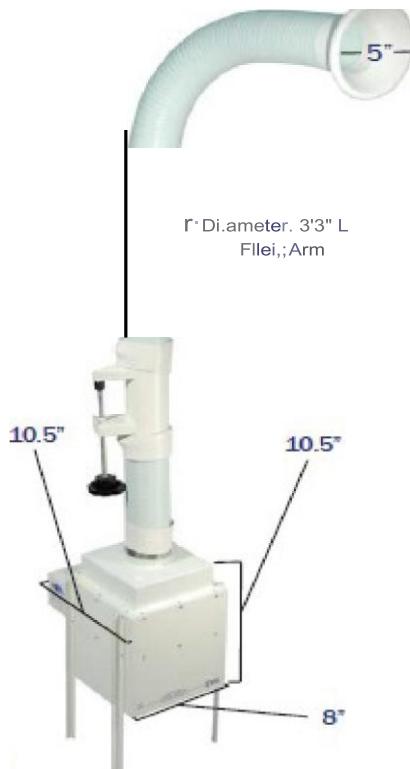
- Reliable Maintenance Free Operation
- Optional Variable Speed Control (1.1.5VAC only)
- Option 1 Hour Goultier

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

Typical applications for this unit include de-soldering, chemical fumes, light grinding, solvent and epoxy fumes, pharmaceutical powders, dust, and many other procedures that emit fumes and particulates.

This unit is customized with filtration media that effectively meets your individual application and typical requirements. 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 inches.



1.800.799.4609
www.sentryair.com
sales@sentryair.com

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" CI x 2.1.5" W

AIRFLOW RATE

Up to 100 CFM. Various Mfr filter media.

WEIGHT

Approx. 12 lbs.

CABINET MATERIAL

#6 g.i. Carbon steel

ELECTRICAL

115V/1,160, Approx. 0.3 Amps
220V/1/50, Approx. 0.2A
8' grounded power cord
Y-tilt NEIMA 5-15P Plug

SOUND LEVEL

Approximately 58 OBA at 3' from inlet

FILTRATION

Depend-ing 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
- SPECIALTY-BLENDED FILTER MEDIA

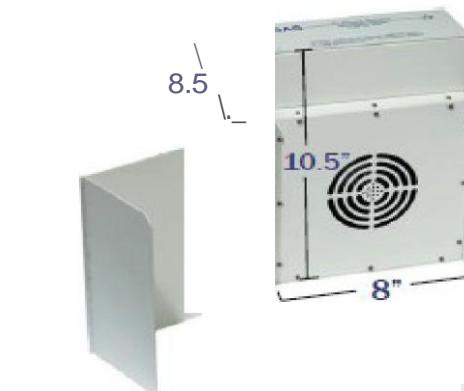
WARRANTY

Limited two-year warranty from date of shipment on defects due to materials or workmanship.

PATENT #5,843,197

Product Features

- Infinitely Adjustable Wing Flaps
- Highly Portable and Light weight
- Reliable, Low Maintenance Operation



Dimensions are approximate.

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

- Sturdy Construction
- Optional Variable Speed Controller (115V only)

■ Optional Clear Acrylic Lid

The **SS-200** is a compact cabinet fume extraction unit that offers a unique solution. It features adjustable "wing flaps" to assist in directing air flow into the filter. It is designed to fit into most work areas. The operator places these flaps in the most effective position. The unit is available in various filter media options.

The **Winige,d S** is a highly portable and light weight unit. It is designed for use in various industries, including pharmaceuticals, food processing, and electronics. It features a simple, quick "no tool" filter change, making it easy to maintain. The unit is made of sturdy construction and is available with optional variable speed control.

The **Winige,d S** is available in various filter media options, including HEPA, ASHRAE, and carbon filters. It is also available with optional variable speed control.

An optional remote control unit is available to control the unit. This unit is available in more than one configuration.



1-800-799-4609
www.sentryair.com
sales@sentryair.com



MADE IN
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