Safety Data Sheet

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

Revision date: 08/20/2014 Version:

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

Product identifier

: Mixture Product form

Trade name : SUNAIR A/C FLUSH NON-FLAMMABLE 32 FL.OZ.

Product code : OB5060

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

: A/C Flush Use of the substance/mixture

Details of the supplier of the safety data sheet

Sunair Products, Inc. 2525 Minnis Dr.

Fort Worth, Texas 76117

T 817-831-6301

Emergency telephone number

Emergency number : CHEMTREC 24 Hour 1-800-424-9300

SECTION 2: Hazards identification

Classification of the substance or mixture

Classification (GHS-US)

Eye Irrit. 2A H319 Carc. 2 H351 Repr. 1B H360 STOT SE 3 H335 STOT SE 3 H336 STOT RE 2 H373

Full text of H-phrases: see section 16

Label elements 2.2.

GHS-US labeling

Hazard pictograms (GHS-US)





Signal word (GHS-US) : Danger

Hazard statements (GHS-US) H319 - Causes serious eye irritation

H335 - May cause respiratory irritation H336 - May cause drowsiness or dizziness H351 - Suspected of causing cancer

H360 - May damage fertility or the unborn child

H373 - May cause damage to organs (to liver, lungs, reproductive system and kidneys) through

prolonged or repeated exposure

Precautionary statements (GHS-US) P201 - Obtain special instructions

P202 - Do not handle until all safety precautions have been read and understood

P260 - Do not breathe dust, fumes, gas, mist, vapor spray P261 - Avoid breathing dust,fume,gas,mist,vapor spray P264 - Wash affected areas thoroughly after handling P271 - Use only outdoors or in a well-ventilated area

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

P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing

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 P312 - Call a POISON CONTROL CENTER, doctor, if you feel unwell.

P314 - Get medical advice/attention if you feel unwell

P337+P313 - If eye irritation persists: Get medical advice/attention P403+P233 - Store in a well-ventilated place. Keep container tightly closed

P405 - Store locked up

P501 - Dispose of contents/container to appropriate waste disposal facility, in accordance with

local, regional, national, international regulations.

Other hazards

Other hazards not contributing to the classification

: None under normal conditions.

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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)
n-Propyl Bromide	(CAS No) 106-94-5	> 90	Eye Irrit. 2A, H319 Repr. 1B, H360 STOT SE 3, H336 STOT SE 3, H335 STOT RE 2, H373
Proprietary Component	(CAS No) Confidential	< 5	Not classified
2-propanol	(CAS No) 67-63-0	< 3	Flam. Liq. 2, H225 Eye Irrit. 2A, H319 STOT SE 3, H336
1,2-epoxybutane,inhibited	(CAS No) 106-88-7	< 2	Flam. Liq. 2, H225 Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation), H332 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Carc. 2, H351 STOT SE 3, H335

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. Suspected of causing cancer. IF exposed or concerned: Get medical advice/attention.

First-aid measures after inhalation

: Remove the victim into fresh air. If experiencing respiratory symptoms: give oxygen, consult a physician. Remove to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER/doctor/physician if you feel unwell.

First-aid measures after skin contact

: Remove/Take off immediately all contaminated clothing. Wash immediately with lots of water. 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

: Rinse cautiously with water for several minutes. Rinse immediately with plenty of water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

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

: May damage fertility. May damage fertility or the unborn child. Causes damage to organs.

Symptoms/injuries after inhalation

: Narcosis. Nausea. Vomiting. Headache. EXPOSURE TO HIGH CONCENTRATIONS: May cause respiratory irritation. May cause drowsiness or dizziness.

Symptoms/injuries after skin contact

: Causes skin irritation.

entering environment.

Symptoms/injuries after eye contact Symptoms/injuries after ingestion : Causes eye irritation. Causes serious eye irritation.: Abdominal pain. Gastrointestinal complaints. Nausea.

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 : Dry chemical powder. 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

Reactivity

: On heating/burning: release of toxic and corrosive gases/vapours (bromine, hydrogen bromide, carbon monoxide - carbon dioxide).

5.3. Advice for firefighters

Firefighting instructions

: Eliminate all ignition sources if safe to do so. Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from

Protection during firefighting

: Heat/fire exposure: compressed air/oxygen apparatus. Do not enter fire area without proper protective equipment, including respiratory protection.

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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. Avoid breathing dust, fume, gas, mist, vapor spray.

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. Plug the leak, cut off the supply. Contain released substance, pump into

suitable containers.

Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect

spillage. 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

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. Avoid breathing dust,fume,gas,mist,vapor spray. Use only outdoors or in a well-

ventilated area.

Hygiene measures : Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product.

Wash affected areas thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a dry place. Store in original container. Keep only in the original container in a cool, well

ventilated place away from : Keep container tightly closed.

Incompatible products : Oxidizing agent. Strong bases. Strong acids.

Incompatible materials : Sources of ignition. Direct sunlight.

Prohibitions on mixed storage : water/moisture.

Storage area : Store in a dry area.

7.3. Specific end use(s)

Follow Label Directions.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

SUNAIR A/C FLUSH NON-FLAMMABLE 32 FL.OZ.		
USA OSHA	OSHA PEL (TWA) (ppm)	400 ppm Isopropyl Alcohol
USA OSHA	Remark (US OSHA)	PEL Not Established - n Propyl Bromide, 1,2 Butylene Oxide, Proprietary Components

n-Propyl Bromide (106-94-5)		
USA ACGIH	ACGIH TWA (ppm)	10 ppm
USA ACGIH	ACGIH STEL (ppm)	10 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

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8.2. Exposure controls

Appropriate engineering controls : Local exhaust venilation, vent hoods.

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





Materials for protective clothing : viton.

Hand protection : Wear protective gloves.

Eye protection : Chemical goggles or safety glasses.

Skin and body protection : Protective clothing.

Respiratory protection : Where exposure through inhalation may occur from use, respiratory protection equipment is

recommended.

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 : Liquid

Appearance : Clear, colorless liquid.

Color : Colorless.
Odor : Sweet.

Odor threshold : No data available

pH : NA Relative evaporation rate (butyl acetate=1) : 4

Melting point : No data available Freezing point : No data available

Boiling point : 68 °C
Flash point : None
Auto-ignition temperature : 400 °C

Decomposition temperature : No data available Flammability (solid, gas) : No data available

Vapor pressure : 139 mm Hg @25 degree C

Relative vapor density at 20 °C : 4.3

Relative density : No data available

Density : 1.21

Solubility : Water: Negligible Log Pow : No data available : No data available Log Kow Viscosity, kinematic No data available Viscosity, dynamic : No data available : No data available Explosive properties Oxidizing properties : No data available No data available Explosive limits

9.2. Other information

VOC content : 100 %

SECTION 10: Stability and reactivity

10.1. Reactivity

On heating/burning: release of toxic and corrosive gases/vapours (bromine, hydrogen bromide, carbon monoxide - carbon dioxide).

10.2. Chemical stability

Stable under normal conditions. Not established.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Moisture. Direct sunlight. Extremely high or low temperatures.

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10.5. Incompatible materials

metals. Oxidizing agent. 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

n-Propyl Bromide (106-94-5)	
LD50 oral rat	> 2000 mg/kg body weight
LD50 dermal rat	> 2000 mg/kg body weight
LD50 dermal rabbit	>= 10 ml/kg By bodyweight
LC50 inhalation rat (ppm)	14374 ppm/4h

1,2-epoxybutane,inhibited (106-88-7)	
LD50 oral rat	500 mg/kg (Rat)
LD50 dermal rabbit	1743 mg/kg (Rabbit)
LC50 inhalation rat (mg/l)	7 - 19 mg/l/4h (Rat)
LC50 inhalation rat (ppm)	2500 - 6550 ppm/4h (Rat)

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)

Skin corrosion/irritation : Not classified pH: NA

Serious eye damage/irritation : Causes serious eye irritation.

pH: NA

Respiratory or skin sensitization : Not classified Germ cell mutagenicity : Not classified

Carcinogenicity : Suspected of causing cancer.

1,2-epoxybutane,inhibited (106-88-7)	
IARC group	2B

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

Reproductive toxicity : May damage fertility or the unborn child.

Specific target organ toxicity (single exposure) : May cause respiratory irritation. May cause drowsiness or dizziness.

Specific target organ toxicity (repeated exposure. May cause damage to organs through prolonged or repeated exposure. May cause damage to exposure organs through prolonged or repeated exposure.

Aspiration hazard : Not classified

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

Symptoms/injuries after inhalation : Narcosis. Nausea. Vomiting. Headache. EXPOSURE TO HIGH CONCENTRATIONS: May

cause respiratory irritation. May cause drowsiness or dizziness.

Symptoms/injuries after skin contact : Causes skin irritation.

Symptoms/injuries after eye contact : Causes eye irritation. Causes serious eye irritation. Symptoms/injuries after ingestion : Abdominal pain. Gastrointestinal complaints. Nausea.

SECTION 12: Ecological information

12.1. Toxicity

n-Propyl Bromide (106-94-5)	
LC50 fish 1	67.3 mg/l (96 h; Pimephales promelas)
1,2-epoxybutane,inhibited (106-88-7)	
LC50 fish 1	100 - 220 mg/l (96 h; Leuciscus idus)
EC50 Daphnia 1	69.8 mg/l (48 h; Daphnia magna)
LC50 fish 2	32.97 mg/l (336 h; Poecilia reticulata)

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1,2-epoxybutane,inhibited (106-88-7)		
EC50 Daphnia 2	159.7 mg/l (24 h; Daphnia magna)	
Threshold limit algae 1	130 mg/l (72 h; Scenedesmus subspicatus)	
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)	
2.2. Persistence and degradability		
SUNAIR A/C FLUSH NON-FLAMMABLE 3	22 51 .07	
Persistence and degradability	Not established.	
<u> </u>	Not established.	
n-Propyl Bromide (106-94-5)		
Persistence and degradability	Biodegradable in water.	
1,2-epoxybutane,inhibited (106-88-7)		
Persistence and degradability	Inherently biodegradable. Not readily biodegradable in water. Photolysis in the air.	
Chemical oxygen demand (COD)	1.975 g O ₂ /g substance	
ThOD	2.44 g O ₂ /g substance	
BOD (% of ThOD)	0.06 % 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	
Proprietary Component (Confidential)		
Persistence and degradability	Not established.	
2.3. Bioaccumulative potential		
<u>'</u>	20 51 07	
SUNAIR A/C FLUSH NON-FLAMMABLE 3 Bioaccumulative potential	Not established.	
Bloaccumulative potential	Not established.	
n-Propyl Bromide (106-94-5)		
BCF other aquatic organisms 1	23 (QSAR)	
Log Pow	2.10	
Bioaccumulative potential	Not bioaccumulative.	
1,2-epoxybutane,inhibited (106-88-7)		
Log Pow	0.68	
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).	
Proprietary Component (Confidential)		
Bioaccumulative potential	Not established.	
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12.4. Mobility in soil		
n-Propyl Bromide (106-94-5)		
	0.026 N/m (20 °C)	
Surface tension		
2-propanol (67-63-0)	0.021 N/m (25 °C)	
	0.021 N/m (25 °C)	
2-propanol (67-63-0)	0.021 N/m (25 °C)	

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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): Not Regulated (Cleaning Solvent Mixture),
ICAO/IATA (air): Not Regulated (Cleaning Solvent Mixture),
IMO/IMDG (water): Not Regulated (Cleaning Solvent Mixture),

14.2. UN proper shipping name

DOT Proper Shipping Name : Not Regulated (Cleaning Solvent Mixture)

14.3. Additional information

Other information : No supplementary information available.

Overland transport

No additional information available

Transport by sea

No additional information available

Air transport

No additional information available

SECTION 15: Regulatory information

15.1. US Federal regulations

SUNAIR A/C FLUSH NON-FLAMMABLE 32 FL.OZ.	
Listed on the United States TSCA (Toxic Substar	nces Control Act) inventory
RQ (Reportable quantity, section 304 of EPA's List of Lists) :	None of the components have a RQ
SARA Section 302 Threshold Planning Quantity (TPQ)	None of the components have a TPQ
SARA Section 313 - Emission Reporting	The following components are subject to section 313 reporting requirements - 1,2 Butylene Oxide (106-88-7)

2-propanol (67-63-0)	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard Fire hazard

15.2. International regulations

CANADA

SUNAIR A/C FLUSH NON-FLAMMABLE 32 FL.OZ.

Listed on the Canadian DSL (Domestic Sustances List)

2-propanol (67-63-0)	
WHMIS Classification	Class B Division 2 - Flammable Liquid

EU-Regulations

SUNAIR A/C FLUSH NON-FLAMMABLE 32 FL.OZ.

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)- Directive 79/831/EEC, sixth Amendment of Directive 67/548/EEC (dangerous substances)

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

Classification according to Directive 67/548/EEC or 1999/45/EC

Carc.Cat.3; R40 Repr.Cat.2; R60 Repr.Cat.3; R63 F; R11

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Xn; R48/20 Xi; R36/37/38 N; R59 R67

Full text of R-phrases: see section 16

15.2.2. National regulations

No additional information available

15.3. US State regulations

SUNAIR A/C FLUSH NON-FLAMMABLE 32 FL.OZ.()	
State or local regulations	U.S New Jersey - Right to Know Hazardous Substance List

SECTION 16: Other information

Other information : None.

Full text of H-phrases: see section 16:

A cuta Tay 4 (Darreal)	A suite terrisity (demonst) Cotomorni A
Acute Tox. 4 (Dermal)	Acute toxicity (dermal) Category 4
Acute Tox. 4 (Inhalation)	Acute toxicity (inhalation) Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Carc. 2	Carcinogenicity Category 2
Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
Flam. Liq. 2	Flammable liquids Category 2
Repr. 1B	Reproductive toxicity Category 1B
Skin Irrit. 2	Skin corrosion/irritation Category 2
STOT RE 2	Specific target organ toxicity (repeated exposure) Category 2
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
H302	Harmful if swallowed
H312	Harmful in contact with skin
H315	Causes skin irritation
H319	Causes serious eye irritation
H332	Harmful if inhaled
H335	May cause respiratory irritation
H336	May cause drowsiness or dizziness
H351	Suspected of causing cancer
H360	May damage fertility or the unborn child
H373	May cause damage to organs through prolonged or repeated exposure

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 : 0 Minimal Hazard

Personal Protection : B

SDS US (GHS HazCom 2012) - Technical Chemical

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

Disclaimer: The information and recommendations contained herein are based upon tests believed to be reliable. However, the manufacturer/distributor of this product does not guarantee their accuracy or completeness NOR SHALL ANY OF THE GOODS, THE GOODS, THE GOODS, THE GOODS, OR THE FITNESS OF THE GOODS FOR A PARTICULAR PURPOSE. Adjustment to conform to actual conditions of usage may be required. The manufacturer/distributor assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied.

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