

Material Safety Data Sheet

Revision Date: 03-05-2013

I. PRODUCT AND COMPANY IDENTIFICATION

Product Name: AIRWORKS 2.0 & AIRWORKS 3.0- MANGO
Product Code:
Company: HOSPECO
26301 CURTISS WRIGHT
PARKWAY
RICHMOND HGTS, OH 44143
Intended use: ODOR COUNTERACTANT

II. HAZARDS IDENTIFICATION

Routes of Entry: Skin contact, Eye contact, Inhalation
Target Organs Potentially Affected by Exposure: Kidneys, Eyes, Skin, Nervous System, Respiratory Tract
Chemical Interactions That Change Toxicity: None Known
Medical Conditions Aggravated by Exposure: Kidney disease, Eye disease, Skin disease including eczema and sensitization, Respiratory disease including asthma and bronchitis

Immediate (Acute) Health Effects by Route of Exposure:

Inhalation Irritation: Can cause respiratory irritation.
Skin Contact: Can cause moderate skin irritation, defatting, and dermatitis. Not likely to cause permanent damage. May cause sensitization.
Skin Absorption: Minimal hazard in normal industrial use. May cause gastrointestinal discomfort
Eye Contact: Can cause moderate irritation, tearing and reddening, but not likely to permanently injure eye tissue.
Ingestion Irritation: Irritating to mouth, throat, and stomach. Can cause abdominal discomfort, nausea, vomiting and diarrhea. Aspiration of material into the lungs can cause chemical pneumonitis.
Ingestion Toxicity: Harmful if swallowed.

Long-Term (Chronic) Health Effects:

Carcinogenicity: None of the substances have been shown to cause cancer in long term animal studies. Not a carcinogen according to NTP, IARC, or OSHA.
Reproductive and Developmental Toxicity: No data available to indicate product or any components present at greater than 0.1% may cause birth defects.
Mutagenicity: No data available to indicate product or any components present at greater than 0.1% is mutagenic or genotoxic.
Inhalation: Upon prolonged and/or repeated exposure, can cause moderate respiratory irritation, dizziness, weakness, fatigue, nausea and headache.
Skin Contact: Upon prolonged or repeated contact, can cause moderate skin irritation, defatting, and dermatitis. Not likely to cause permanent damage.
Skin Absorption: Upon prolonged or repeated exposure, minimal hazard in normal industrial use. May cause gastrointestinal discomfort.

HMIS Rating: Health: 1 Flammability: 2 Reactivity: 1

III. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	%	CAS #	OSHA Exposure Limits
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(d)-Limonene	15 - 40	5989-27-5	No PEL established
4,7-Methano-1H-inden-6-ol, 3a,4,5,6,7,7a-hexahydro-, 6-propanoate	10 - 30	17511-60-3	No PEL established
2-Methyl-2,4-pentanediol	10 - 30	107-41-5	No PEL established
Terpenes and Terpenoids, grapefruit-oil	7 - 15	68917-32-8	No PEL established
Butanoic acid, 1,1-dimethyl-2-phenylethyl ester	1 - 5	10094-34-5	No PEL established
Stoddard solvent	1 - 5	8052-41-3	500 ppm TWA; 2900 mg/m3 TWA
2(3H)-Furanone, 5-heptyldihydro-	1 - 5	104-67-6	No PEL established
Butanedioic acid, 1,4-diethyl ester	1 - 5	123-25-1	No PEL established
5-Heptenal, 2,6-dimethyl-	1 - 5	106-72-9	No PEL established
Cyclopenta[g]-2-benzopyran, 1,3,4,6,7,8-hexahydro-4,6,6,7,8,8-hexamethyl-	0.5 - 1.5	1222-05-5	No PEL established
Benzeneprapanal, .alpha.-methyl-4-(1-methylethyl)-	0.5 - 1.5	103-95-7	No PEL established
Butanoic acid, ethyl ester	0.5 - 1.5	105-54-4	No PEL established
Butanoic acid, 3-methylbutyl ester	0.5 - 1.5	106-27-4	No PEL established

Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

The composition of this product is classified as a trade secret in accordance with CFR 29 1910. 1200 . Ingredients not precisely identified are proprietary or nonhazardous.

IV. FIRST-AID MEASURES

Inhalation:	Remove to fresh air. If breathing is difficult, have a trained individual administer oxygen. If not breathing, give artificial respiration and have a trained individual administer oxygen. Get medical attention immediately
Eyes:	Flush eyes with plenty of water for at least 20 minutes retracting eyelids often. Tilt the head to prevent chemical from transferring to the uncontaminated eye. Get immediate medical attention.
Skin Contact:	Wash with soap and water. Remove contaminated clothing and launder. Get medical attention if irritation develops or persists.
Ingestion:	Do not induce vomiting and seek medical attention immediately. Drink two glasses of water or milk to dilute. Provide medical care provider with this MSDS. Induce vomiting as a last measure. Induced vomiting may lead to aspiration of the material into the lungs potentially causing chemical pneumonitis.
Notes to Doctor:	No additional first aid information available

V. FIRE FIGHTING MEASURES

Flammability Summary:	Combustible
Extinguishing Media:	Use alcohol resistant foam, carbon dioxide, or dry chemical extinguishing agents. Water may be ineffective but water spray can be used to extinguish a fire if swept across the base of the flames. Water can absorb heat and keep exposed material from being damaged by fire.
Fire and/or Explosion Hazards:	Vapors may be ignited by sparks, flames or other sources of ignition if material is above the flash point giving rise to a fire (Class B). Vapors are heavier than air and may travel to a source of ignition and flash back. Combustible Liquid. Can form explosive mixtures at temperatures at or above the flash point. Empty containers that retain product residue (liquid, solid/sludge, or vapor) can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose container to heat, flame, sparks, static electricity, or other sources of ignition. Any of these actions can potentially cause an explosion that may lead to injury or death. Container may explode in heat of fire.
Fire Fighting Methods and Protection:	Do not enter fire area without proper protection including self-contained

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breathing apparatus and full protective equipment. Fight fire from a safe distance and a protected location due to the potential of hazardous vapors and decomposition products. Flammable component(s) of this material may be lighter than water and burn while floating on the surface.

Use methods for the surrounding fire.

Hazardous Combustion Products: Carbon dioxide, Carbon monoxide, Toxic fumes., Toxic gases

Flash Point °F (Closed Cup): 135 ° F
Autoignition Temperature °F: Not determined
Upper Flammable/Explosive Limit, % in air: 9
Lower Flammable/Explosive Limit, % in air: 1.3

VI. ACCIDENTAL RELEASE MEASURES

Personal Precautions and Equipment: No health affects expected from the clean-up of this material if contact can be avoided. Follow personal protective equipment recommendations found in Section VIII of this MSDS

Methods for Clean-up: No special spill clean-up considerations. Collect and discard in regular trash.

VII. HANDLING AND STORAGE

Handling Technical Measures and Precautions: Mildly irritating material. Avoid unnecessary exposure. As with all chemicals, good industrial hygiene practices should be followed when handling this material. Avoid contact with material, avoid breathing dusts or fumes, use only in a well ventilated area. Wash thoroughly after handling Do not get in eyes, on skin and clothing Use spark-proof tools and explosion-proof equipment Ground and bond containers when transferring material "Empty" containers retain product residue (liquid and/or vapor) and can be dangerous. Keep in air-tight containers- material is hygroscopic. Remove contaminated clothing and wash before reuse

Storage Technical Measures and Conditions: Store in a cool dry place. Isolate from incompatible materials. Store in a cool place in original container and protect from sunlight Keep away from heat, sparks, and flame Do not store near combustible materials Keep container closed when not in use Store in a cool dry place Store in a tightly closed container Keep away from sources of ignition

VIII. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Measures: No exposure limits exist for the constituents of this product. Use local exhaust ventilation or other engineering controls to minimize exposures and maintain operator comfort. Engineering controls must be designed to meet the OSHA chemical specific standard in 29 CFR 1910. Explosion proof exhaust ventilation should be used. Facilities storing or using this material should be equipped with an eyewash and safety shower. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits Ventilation is required to maintain operator exposure below published exposure limits.

Respiratory Protection: Respiratory protection may be required to avoid overexposure when handling this product. General or local exhaust ventilation is the preferred means of protection. Use a respirator if general room ventilation is not available or sufficient to eliminate

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symptoms. Follow a respiratory protection program that meets 29 CFR 1910.134 and ANSI Z88.2 requirements whenever work place conditions warrant the use of a respirator. Respiratory protection may be required in addition to ventilation depending upon conditions of use. Wear a NIOSH approved respirator if any exposure is possible.

Eye Protection: Wear chemically resistant safety glasses with side shields when handling this product. Do not wear contact lenses. Wear goggles and a Face shield

Skin Protection: Wear protective gloves. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work. Where contact is likely, wear chemical resistant gloves, a chemical suit, rubber boots, and chemical safety goggles plus a face shield

Gloves: No information available

Control Parameters:

Chemical Name	ACGIH TLV-TWA	ACGIH STEL	IDLH
(d)-Limonene	No TLV		ND
4,7-Methano-1H-inden-6-ol, 3a,4,5,6,7,7a-hexahydro-, 6-propanoate	No TLV		ND
2-Methyl-2,4-pentanediol	No TLV		ND
Terpenes and Terpenoids, grapefruit-oil	No TLV		ND
Butanoic acid, 1,1-dimethyl-2-phenylethyl ester	No TLV		ND
Stoddard solvent	100 ppm TWA; 525 mg/m3 TWA		ND
2(3H)-Furanone, 5-heptyldihydro-	No TLV		ND
Butanedioic acid, 1,4-diethyl ester	No TLV		ND
5-Heptenal, 2,6-dimethyl-	No TLV		ND
Cyclopenta[g]-2-benzopyran, 1,3,4,6,7,8-hexahydro-4,6,6,7,8,8-hexamethyl-	No TLV		ND
Benzenepropanal, .alpha.-methyl-4-(1-methylethyl)-	No TLV		ND
Butanoic acid, ethyl ester	No TLV		ND
Butanoic acid, 3-methylbutyl ester	No TLV		ND

IX. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Liquid
Color:	Very pale yellow
Odor:	Comparable to Standard
pH:	Not Available
Solubility in Water:	Soluble in water- No
Octanol/Water Partition Coefficient:	0.14
Evaporation Rate:	Not Available
Vapor Density:	> 1
Flash Point °F (Closed Cup):	135 ° F
Boiling Point: °F	Not Available
Melting Point: °F	-101 -58
Specific Gravity:	0.8993

X. STABILITY AND REACTIVITY

Stability:	Stable under normal conditions.
Conditions to Avoid:	Temperatures above flash point in combination with sparks, open flames, or other sources of ignition. Contamination Elevated temperatures
Materials to Avoid/Chemical Incompatibility:	Strong oxidizing agents Acetic anhydride Strong acids Strong reducing agents Chlorinated compounds
Hazardous Decomposition Products:	Carbon dioxide Carbon monoxide Toxic fumes. Toxic gases

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XI. TOXICOLOGICAL INFORMATION

Component Toxicology Data:

Chemical Name	CAS Number	LD50/LC50
Cyclohexene, 1-methyl-4-(1-methylethenyl)-, (R)-	5989-27-5	Oral LD50 Rat : 4400 mg/kg; Oral LD50 Mouse : 5600 mg/kg; Dermal LD50 Rabbit :
2,4-Pentanediol, 2-methyl-	107-41-5	Inhalation LC50 Rat : >310 mg/m ³ /1H; Oral LD50 Rat : 3700 mg/kg; Oral LD50

XII. ECOLOGICAL INFORMATION

Overview: This material is not expected to be harmful to the ecology.

XIII. DISPOSAL CONSIDERATIONS

Waste Description for Spent Product: Spent or discarded material is a hazardous waste.

Disposal Methods: DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the sole responsibility of the waste generator. As your supplier, we have no control over the management practices or manufacturing processes of parties handling or using this material. The information presented here pertains only to the product when used as intended, according to this MSDS. For unused and uncontaminated product, the preferred options include sending to a licensed and permitted incinerator or other thermal destruction device. Various federal, state or provincial agencies may have specific regulations concerning the transportation, handling, storage, use or disposal of this product which may not be covered in this MSDS. The user shall have to review these regulations to ensure full compliance with all applicable regulations.

XIV. TRANSPORTATION INFORMATION

US DOT Ground Shipping Description: Not Restricted

IATA Shipping Description: UN1266, PERFUMERY PRODUCT, 3, PGIII

IMDG Shipping Description: UN1266, PERFUMERY PRODUCT, 3, PGIII

XV. REGULATORY INFORMATION

TSCA Status All components in this product are on the TSCA Inventory.

Chemical Name	CAS #	Regulation	% Range
No 313-listed chemicals in this product		SARA 313	

XVI. ADDITIONAL INFORMATION

Disclaimer: Important: While the descriptions, data and information contained herein are presented in good faith and believed to be accurate, it is provided for your guidance only. Because many factors may affect processing or application/use, we recommend that you perform an assessment to determine the suitability of the product for your particular purpose prior to use. Nothing herein should be interpreted as a recommendation to infringe existing patents or violate any laws or regulations. No warranties of any kind, either expressed or implied, including fitness for a particular purpose are made regarding the product described. We assume NO responsibility for any injuries resulting from misuse or misapplication of this product or that might be sustained because of inhalation, ingestion, absorption or other contact with this product. In no case shall the descriptions, information, or data provided be considered a part of our terms and conditions of sale. Further, the descriptions, data and information furnished hereunder are given gratis. No obligation or liability for the description, data and information given are assumed. All such being given and accepted at your risk.

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