

SAFETY DATA SHEET

1. PRODUCT & COMPANY IDENTIFICATION

Product Name: Shield-Brite® AP-450
Product Code: 10408
Product Use: Shellac Coating for Apples
Product Restrictions: For Agriculture Use Only
Manufacturer/Importer/Supplier/Distributor information
Manufacturer: Pace International, LLC
Address: 5661 Branch Road, Wapato, WA 98951
Phone Number: 800-936-6750 (Monday-Friday, 7:00 a.m. – 4:00 p.m.)
Medical Emergency Phone Number: 888-271-4649 (PROPHARMA/PROSAR)
Transportation Emergency Phone Number: 800-424-9300 (CHEMTREC)
Supplier: See above

2. HAZARDS IDENTIFICATION

GHS Classification in accordance with 29 CFR 1910 (2012 OSHA Hazard Communication Standard)
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification:

Physical Hazards: Flammable liquid, Category 3

Health Hazards:

Serious eye damage / eye irritation, Category 2

Sensitization - skin, Category 1

Environmental Hazards: Not classified

Hazard Symbols:



Signal Word:

WARNING

Hazard Statements:

H226 Flammable liquid and vapor.

H319 Causes serious eye irritation.

H317 May cause an allergic skin reaction.

Precautionary Statements:

Prevention Statements:

P210 Keep away from heat / hot surfaces / sparks / open flames / and other ignition sources. No smoking

P233 Keep container tightly closed.

P240 Ground/Bond container and receiving equipment

P241 Use explosion-proof electrical / ventilating / lighting / and process equipment.

P242 Use non-sparking tools.

P243 Take precautionary measures against static discharge.

P261 Avoid breathing mist, vapors or sprays.

P264 Wash hands thoroughly after handling.

P272 Contaminated work clothing should not be allowed out of the workplace

P280 Wear protective clothing, chemical resistant gloves, and safety glasses.

Response Statements:

P303/361/353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P370/378 In case of fire: Use dry chemical, CO₂ to extinguish.

P305/351/338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337/313 If eye irritation persists: Get medical advice/attention.

P302/352 IF ON SKIN: Wash with plenty of soap and water.

P321 Specific treatments see Section 4 First Aid Measures on SDS.

P333/313 If skin irritation or rash occurs: Get medical advice/attention.

P321 Specific treatments see Section 4 First Aid Measures on SDS.

P362/364 Take off contaminated clothing and wash it before reuse.

Storage Statements:

Store locked up. Keep away from heat / hot surfaces / sparks / open flames / and other ignition sources. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in cool, dry, well-ventilated area. Store indoors at temperatures above 40°F. Keep container tightly closed and upright to prevent leakage and

Hazard(s) not otherwise classified (HNOC):	contamination. Store away from incompatible materials (see Section 10 of the SDS). Keep out of reach of children.
Other Hazards:	Disposal Statements: P501 Dispose of contents/container in accordance with applicable regional, national and local laws and regulations. None known. None.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

<u>Chemical name</u>	<u>CAS #</u>	<u>%</u>
Isopropanol	67-63-0	10 – 30*
Morpholine	110-91-8	1 – 5*
Resin acids and rosin acids, fumarated, esters with pentaerythritol	94581-15-4	1 – 5*

All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

Composition comments: * US GHS: The exact percentage (concentration) of composition has been withheld as a trade secret in accordance with paragraph (i) of §1910.1200.

4. FIRST AID MEASURES

General Advice:	Have the product container, label or Safety Data Sheet with you when calling a poison control center, physician, or going for treatment. You may also contact PROPHARMA (PROSAR) 1-888-271-4649 for emergency medical treatment information.
Skin contact:	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Wash before reuse. Rinse skin with water/shower. Specific treatments see Section 4 of SDS. If skin irritation or rash occurs: Get medical advice/attention.
Eye contact:	IF IN EYES: Hold eye open and rinse cautiously with water for 15 – 20 minutes. Remove contact lenses, if present, after the first 5 minutes if easy to do, then continue rinsing eye. If eye irritation persists: Get medical advice/attention.
Inhalation:	If symptoms develop move victim to fresh air. If symptoms persist, obtain medical attention.
Ingestion:	Rinse mouth. Do not induce vomiting. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Never give anything by mouth if victim is unconscious or is convulsing. Obtain medical attention.
Most important Symptoms / effects, acute and delayed	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Sensitization.
Indication of any immediate medical attention and special treatment needed:	Provide general supportive measures and treat symptomatically. Symptoms may be delayed.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media:	Water fog. Alcohol resistant foam. Dry chemical powder. Carbon dioxide.
Unsuitable Extinguishing Media:	Do not use water jet as an extinguisher, as this will spread the fire.
Special Hazards Arising from the Chemical:	Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back. During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters:	Firefighters must wear full protective clothing including self-contained breathing apparatus.
Firefighting equipment/instructions:	In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.
Specific methods:	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards:	Flammable liquid and vapor.
Hazardous combustion products:	May include and are not limited to: Oxides of carbon and oxides of nitrogen.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions,	Keep unnecessary personnel away. Keep people away from and upwind of
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Protective Equipment and Emergency procedures:

spill/leak. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist, vapors or sprays. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, (see section 8 of the SDS). Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Take precautionary measures against static discharge. Use only non-sparking tools. Prevent entry into waterways, sewer, basements or confined areas.

Methods and Materials for Containment and Clean-Up:

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.

Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Clean surface thoroughly to remove residual contamination.

Environmental Precautions:

Never return spills to original containers for re-use. Avoid discharge into drains, water courses or onto the ground. Do not discharge into lakes, streams, ponds or public waters.

7. HANDLING & STORAGE

Precautions for Safe Handling:

Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Do not eat, drink or smoke when using this product. Explosion-proof general and local exhaust ventilation. Take precautionary measures against static discharge. All equipment used when handling the product must be grounded. Use explosion-proof electrical / ventilating / lighting / and process equipment. Avoid contact with skin, eyes, or clothing. Avoid prolonged exposure. Wear appropriate personal protective equipment (see Section 8). Wash thoroughly after handling. Use good industrial hygiene practices in handling this material.

Conditions for Safe Storage, including any Incompatibilities:

Store locked up. Keep away from heat / hot surfaces / sparks / open flames / and other ignition sources. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in cool, dry, well-ventilated area. Store indoors at temperatures above 40°F. Keep container tightly closed and upright to prevent leakage and contamination. Store away from incompatible materials (see Section 10 of the SDS). Keep out of reach of children.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits:

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Isopropanol (CAS# 67-63-0)	PEL	980 mg/m3 400 ppm
Morpholine (CAS# 110-91-8)	PEL	70 mg/m3 20 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value
Isopropanol (CAS# 67-63-0)	STEL	400 ppm
	TWA	200 ppm
Morpholine (CAS# 110-91-8)	TWA	20 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Isopropanol (CAS# 67-63-0)	STEL	1225 mg/m3 500 ppm
	TWA	980 mg/m3 400 ppm
Morpholine (CAS# 110-91-8)	STEL	105 mg/m3 30 ppm
	TWA	70 mg/m3 20 ppm

Biological Limit Values:

Components	Value	Determinant	Specimen	Sampling Time
Isopropanol (CAS# 67-63-0)	40 mg/L	Acetone	Urine	*
+- For sampling details, please see the source document.				

Exposure Guidelines:

US. ACGIH Threshold Limit Values: Skin designation

Morpholine (CAS# 110-91-8)

Danger of cutaneous absorption.

US. NIOSH: Pocket Guide to Chemical Hazards : Skin designation

Morpholine (CAS# 110-91-8)

Can be absorbed through the skin.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Morpholine (CAS# 110-91-8)

Can be absorbed through the skin.

Appropriate engineering controls:

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

Eye/face protection:

Wear safety glasses with side shields (or goggles). Eye wash station and washing facilities should be available.

Skin protection

Hand protection:

Wear nitrile, neoprene, vinyl (PVC), or rubber gloves.

Other:

Wear protective clothing (long sleeved shirt, pants, and shoes).

Respiratory protection:

Where exposure guideline levels may be exceeded, use an approved NIOSH respirator. Respirator should be selected by and used under the direction of a trained health and safety professional following requirements found in OSHA's respirator standard (29 CFR 1910.134) Not applicable.

Thermal hazards:

General hygiene considerations:

Handle in accordance with good industrial hygiene and safety practice. Wash thoroughly after handling. Do not eat, drink or smoke when using this product.

9. PHYSICAL & CHEMICAL PROPERTIES

Physical state:	Liquid	Upper/Lower flammability or exposure limits:	Not available
Appearance / Color:	Red	Vapor pressure:	Not available
Odor:	Faint ammonia odor	Vapor density: (air =1)	Not available
Odor threshold:	Not available	Specific Gravity: (H ₂ O = 1)	1.01
pH:	7.6	Solubility:	Miscible in water
Melting/Freezing point:	Not available	Partition coefficient (n-octanol-water):	Not available
Initial boiling point and boiling range:	203°F (95°C)	Auto-ignition temperature:	Not available
Flash point:	97°F (36.1°C) Closed cup (small scale)	Decomposition temperature:	Not available
Evaporation rate:	Not available	Viscosity:	Not available
Flammability (solid, gas):	Not applicable	Explosive Properties:	Not explosive
		Oxidizing Properties:	Not oxidizing

10. STABILITY & REACTIVITY

Reactivity hazards:	This product may react with strong oxidizing agents.
Possibility of Hazardous Reactions:	Hazardous polymerization does not occur.
Chemical stability:	Material is stable under normal conditions.
Conditions to avoid:	Keep away from heat / hot surfaces / sparks / open flames / and other ignition sources. Avoid temperatures exceeding the flash point. Do not mix with other chemicals.
Incompatible materials:	Acids. Strong oxidizing agents. Chlorine. Isocyanates.
Hazardous decomposition products:	May include and are not limited to: Oxides of carbon y oxides of nitrogen.

11. TOXICOLOGICAL INFORMATION

Routes of exposure	Eye, Skin contact, Inhalation, Ingestion.
Information on likely routes of exposure	
Ingestion	May cause stomach distress, nausea or vomiting.

Inhalation	Prolonged inhalation may be harmful.
Skin contact	Causes skin irritation.
Eye contact	Causes serious eye irritation.
Symptoms related to the physical, chemical and toxicological characteristics	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain.
Information on toxicological effects	
Acute toxicity	
Components	Species
Isopropanol (CAS# 67-63-0)	Test Results
Acute	
<i>Dermal</i>	
LD50	Rabbit
<i>Inhalation</i>	
LC50	Rat
	13900 mg/kg, ECHA
	25000 mg/m3, 6 hours, ECHA
	16970 mg/l/4h, HMIRA
<i>Oral</i>	
LD50	Rat
	5840 mg/kg, ECHA
Morpholine (CAS# 110-91-8)	
Acute	
<i>Dermal</i>	
LD50	Rabbit
<i>Inhalation</i>	
LC50	Rat
<i>Oral</i>	
LD50	Rat
	500 mg/kg, 24 Hours, ECHA
	8 mg/L, ECHA
	1900 mg/kg, ECHA
Resin acids and rosin acids, fumarated, esters with pentaerythritol (CAS# 94581-15-4)	
Acute	
<i>Dermal</i>	
LD50	Rat
<i>Inhalation</i>	
LC50	Not available
<i>Oral</i>	
LD50	Rat
	>2000 mg/kg, 24 Hours, ECHA
	>5000 mg/kg, ECHA
	>2000 mg/kg, ECHA
Skin corrosion/irritation:	Prolonged skin contact may cause temporary irritation.
Exposure minutes	Not available
Erythema value	Not available
Oedema value	Not available
Serious eye damage/eye irritation:	Causes serious eye irritation.
Corneal opacity value	Not available
Iris lesion value	Not available
Conjunctival reddening value	Not available
Conjunctival oedema value	Not available
Recover days	Not available
Respiratory sensitization:	Not a respiratory sensitizer.
Skin sensitization:	May cause skin contact sensitization.
Germ cell mutagenicity:	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic
Carcinogenicity:	See below
IARC Monographs. Overall Evaluation of Carcinogenicity	
Morpholine (CAS# 110-91-8)	Volume 47, Volume 71 - 3 Not classifiable as to carcinogenicity to humans.
US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)	
Not listed.	
Reproductive toxicity:	This product is not expected to cause reproductive or developmental effects.
Teratogenicity:	Non-hazardous by WHMIS/OSHA criteria.
Specific target organ toxicity - single exposure:	Not classified.
Specific target organ toxicity - repeated exposure:	Not classified.
Aspiration hazard:	Material does not present an aspiration hazard.
Chronic effects:	Prolonged inhalation may be harmful.

12. ECOLOGICAL INFORMATION

Ecotoxicity	See below	
Ecotoxicological data	Species	Test Results
Components		
Isopropanol (CAS# 67-63-0)		
Algae IC50	Algae	1000 mg/L, 72 Hours
Crustacea EC50	Daphnia	13299 mg/L, 48 hours
Aquatic		
Fish LC50	Bluegill (Lepomis macrochirus)	>1400 mg/L, 96 hours
Morpholine (CAS# 110-91-8)		
Aquatic		
Fish LC50	Zebra danio (Danio rerio)	>1 mg/L, 96 hours
Persistence/ degradability:	No data is available on the degradability of this product.	
Bioaccumulative potential:	Not available	
Mobility in soil:	Not data available	
Mobility in general:	Not available.	
Other adverse effects:	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.	

13. DISPOSAL CONSIDERATIONS

Disposal instructions:	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Disposal should be made in accordance with applicable regional, national and local laws and regulations.
Local disposal Regulations	Dispose of in accordance with local regulations.
Hazardous waste code	This material, in its original form and concentration, would designate as a D001 federal hazardous waste for ignitability when disposed.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. TRANSPORT INFORMATION

Transport of Dangerous Goods (TDG) Proof of Classification	Classification method: Classified according to Part 2, sections 2.1-2.8 of the Regulations for the transport of dangerous goods. If applicable, the technical name and product classification will appear below.
U.S. Department of Transportation (DOT)	DOT
	
UN number:	UN1993
Proper shipping name:	Flammable Liquid, n.o.s. (Isopropanol)
Hazard class(es):	3
Packing group:	III
Special provisions:	B1, B52, IB3, T4, TP1, TP29
Packaging exceptions:	150
Packaging non bulk:	203
Packaging bulk:	242

15. REGULATORY INFORMATION

US FEDERAL REGULATIONS	This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.	
TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)	Not regulated.	
CERCLA Hazardous Substance List (40 CFR 302.4)	Isopropanol (CAS# 67-63-0)	Listed
	Morpholine (CAS# 110-91-8)	Listed
SARA 304 Emergency Release Notification	Not regulated.	
US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)	Not listed.	
Superfund Amendments and Reauthorization Act of 1986 (SARA)		

SARA 302 Extremely hazardous substance
SARA 311/312 Hazardous chemical

No
Yes

Classified Hazard Categories

Flammable (gases, aerosols, liquids, or solids)
Serious eye damage or eye irritation
Respiratory or skin sensitization.

SARA 313 (TRI reporting)

Chemical name
Isopropanol

CAS number
67-63-0

% by wt.
10 – 30*

OTHER FEDERAL REGULATIONS

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

US STATE REGULATIONS

US - California Hazardous Substances (Director's): Listed substance

Isopropanol (CAS# 67-63-0)

Listed

Morpholine (CAS# 110-91-8)

Listed

US - Illinois Chemical Safety Act: Listed substance

Isopropanol (CAS# 67-63-0)

Morpholine (CAS# 110-91-8)

US - Louisiana Spill Reporting: Listed substance

Isopropanol (CAS# 67-63-0)

Listed

Morpholine (CAS# 110-91-8)

Listed

US - Minnesota Haz Subs: Listed substance

Isopropanol (CAS# 67-63-0)

Listed

Morpholine (CAS# 110-91-8)

Listed

US - Texas Effects Screening Levels: Listed substance

Isopropanol (CAS# 67-63-0)

Listed

Morpholine (CAS# 110-91-8)

Listed

US. Massachusetts RTK - Substance List

Isopropanol (CAS# 67-63-0)

Morpholine (CAS# 110-91-8)

US. New Jersey Worker and Community Right-to-Know Act

Isopropanol (CAS# 67-63-0)

Morpholine (CAS# 110-91-8)

US. Pennsylvania Worker and Community Right-to-Know Law

Isopropanol (CAS# 67-63-0)

Morpholine (CAS# 110-91-8)

US. Rhode Island RTK

Isopropanol (CAS# 67-63-0)

Morpholine (CAS# 110-91-8)

US. California Proposition 65

Not listed

Inventory status

Country(s) or region

Canada

Canada

United States & Puerto Rico

Inventory name

Domestic Substances List (DSL)

Non-Domestic Substances List (NDSL)

Toxic Substances Control Act (TSCA)

Inventory

On inventory (yes/no)*

No

No

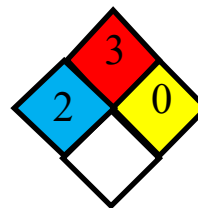
No

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

16. OTHER INFORMATION

LEGEND	
Severe	4
Serious	3
Moderate	2
Slight	1
Minimal	0

HEALTH	2
FLAMMABILITY	3
PHYSICAL HAZARD	0
PERSONAL PROTECTION	X



The information provided in this Safety Data Sheet (SDS) is provided in good faith and believed to be accurate at the time of preparation of the SDS. However, Pace International, LLC and its subsidiaries or affiliates extend no warranties, make no representations, and assume no responsibility as to the accuracy, suitability, or completeness of such information. Additionally, neither Pace International, LLC nor any of its subsidiaries or affiliates represents or guarantees that this information or product may be used without infringing the intellectual property rights of others. It is the users' own responsibility to determine the suitability of this information for their own particular use of this product. If necessary, contact Pace International, LLC to confirm that you have the most current product label and SDS.

This Safety Data Sheet (SDS) may provide more information than the product label but does not replace or modify the product labeling (attached to and accompanying the product container). The product SDS and the product label both provide consistent and important health, safety, and environmental information as required by the Occupational Health and Safety Act (29 CFR 1910.1200, "Hazcom"). This requirement covers employers, employees, emergency responders, users and others handling the product. All necessary hazard classification and appropriate precautionary, use, storage, and disposal information are set forth on the labeling and the SDS.

SDS preparation date: September 23, 2025

Replaces SDS dated: October 22, 2020

Changes since last Rebranding

Version: 4

revision: