This document covers safety data concerning the following products:

PALRUF®, PALCLEAR™, PALOPAQUE™, PALDOOR™, PALCLAD™, AG-TUF™, WALLTUF™, HYG (HYGIENIC) PRODUCTS

Rigid PVC Sheet

PALRAM urges the recipient of this Product Safety Data Sheet to study it carefully to become aware of hazards, if any, of the product involved. In the interest of safety you should (1) notify your employees, agents and contractors of the information on this sheet, (2) furnish a copy to each of your customers for the product, and (3) request your customers to inform their employees and customers as well.

1. Identification of the Article and the Company

1.1. Identification of the Article

Trade Names: PALRUF®, PALCLEAR™, PALOPAQUE™, PALDOOR™, PALCLAD™, AG-TUF™, WALLTUF™, HYG (HYGIENIC) PRODUCTS

Product Name: Rigid Polyvinyl Chloride sheets

Material Name: Polyvinyl Chloride Homopolymer

CAS Number: 9002-86-2

UN Number: None

ACX Number: X1007407-8

RTECS: KV0350000

Material Synonyms: PVC

NFPA Ratings: Health=1, Fire=0, Reactivity=0

1.2. Company Identification & Contact

<table>
<thead>
<tr>
<th>Israel - Palram PVC</th>
<th>UK - Palram DPL</th>
<th>Americas - Palram Panels (PPI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address: Ramat Yohanan, 30035, ISRAEL</td>
<td>Address: 22 Coatham Ave. Aycliffe Industrial Park</td>
<td>Address: 9471 Commerce Circle Kutztown, PA 19530, USA</td>
</tr>
<tr>
<td>Tel: +972 4 8459 900</td>
<td>Newton Aycliffe Co. Durham, DL5 6DB, UK Tel: +44 1325 300437 Fax: 44 1325 318173</td>
<td>Tel: +610-285-9918 Fax: +484-647-8210</td>
</tr>
<tr>
<td>Fax: +972 4 8444 980</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E-mail: <a href="mailto:palram@palram.com">palram@palram.com</a></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Web: <a href="http://www.Palram.com">www.Palram.com</a></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Local: Call your nearest poison control center.

2. Composition / Information of Ingredients

Tin stabilized PVC sheets, 2.5% by weight tin-maleate or tin-mercaptide based stabilizer. Pigments and additives used to enhance specific properties are encapsulated in the polymer resin matrix. No solvents. No plasticizers. No cadmium, lead, or other heavy metals used.

3. Hazards Identification

No particular hazards known.

3.1. Health Hazard Data

3.1.1 Effects of a Single Overexposure

Swallowing : non-relevant

Skin absorption : non-relevant

Inhalation : non-relevant

CAS Number : exposure is not expected to cause adverse health effects

Eye contact : non-relevant

In as much as Palram Industries has no control over the use to which others may put the material, it does not guarantee that the same results as those described herein will be obtained. Each user of the material should make his own tests to determine the material’s suitability for his own particular use. Statements concerning possible or suggested uses of the materials described herein are not to be construed as constituting a license under any Palram Industries patent covering such use or as recommendations for use of such materials in the infringement of any patent. Palram Industries or its distributors cannot be held responsible for any losses incurred through incorrect installation of the material. In accordance with our company policy of continual product development you are advised to check with your local Palram Industries supplier to ensure that you have obtained the most up to date information.
### 3.1.2 Effects of a Repeated Overexposure
None currently known

### 3.1.3 Medical Conditions Aggravated by Overexposure
None currently known

### 3.1.4 Other Effects of Overexposure
None currently known

### 4. First Aid Measures
In general handling the material will not cause accidents.

#### 4.1. Inhalation
**Route of entry – inhalation:** No
If exposed to combustion fumes in high concentration - bring victim to fresh air. Medical attention needed.

#### 4.2. Ingestion
**Route of entry – ingestion:** No

#### 4.3. Skin Contact
Burns resulting from accidental contact with molten material must be flushed immediately with cold water. Do not remove the polymer from the skin. Medical attention needed.

#### 4.4. Skin Absorption
**Route of entry – skin:** No

#### 4.5. Eye Contact
Like any foreign body, can cause mechanical irritation. Consult physician.

#### 4.6. Notes for Physician
There are no specific notes.

### 5. Fire Fighting Measures

#### 5.1. Extinguishing Media
Water spray or CO₂. CO₂ is less recommended due to lack of cooling capacity.

#### 5.2. Extinguishing Media To Avoid
No information currently available.

#### 5.3. Special Fire Fighting Procedures
Personnel without suitable respiratory apparatus should leave the affected area to prevent exposure to toxic or combustible gases.

#### 5.4. Special Protective Equipment for Firefighters
Positive-pressure self-contained breathing apparatus, protective closing, gas mask approved for acid vapors.

#### 5.5. Unusual Fire and Explosion Hazards
PVC is a self extinguishing fire retardant material, that being exposed to open fire and high temperatures decomposes emitting large quantities of HCl, which tends to extinguish the flames. It does not continue to burn after ignition without an external fire source. HCl has a strong acidic odor that causes sensory alert at very low concentrations. HCl odor threshold = 0.77 ppm. Exposure to high concentrations of HCl will cause irritation of the respiratory passages, at very high concentrations may cause burns to mucous membranes. OSHA legal airborne PEL is 5 ppm, not to be exceeded at any time. ACGIH recommended airborne exposure limit is 5 ppm, which should not be exceeded at any time. Soot emitted when PVC is forced to burn may obscure visibility.

### 6. Accidental Release Measures
No special precautions and no personal protective equipment needed. Collect mechanically for disposal.
7. Handling and Storage

7.1. Handling
General handling precautions
Avoid mechanical contact with eyes.

Ventilation
General (mechanical) room ventilation is expected to be satisfactory where this product is stored and handled.

Other precautions
No explosion hazard. In the event of fire, cool and overlap product with water. Static electricity discharge sparks possible during handling. Avoid contact or vicinity of flammable materials. When opening truck or rail car for unloading, ventilate before entering.

7.2. Storage
Store in a cool shady area. No special technical protective measures required.

8. Exposure Controls / Personal Protection

8.1. Exposure Limits
No occupational exposure limits established by OSHA, ACGIH, or NIOSH.

8.2. Personal Protection
Respiratory protection : No special protection needed
Hand protection/protective gloves : No special protection needed
Eye protection : No special protection needed
Other protective equipment : No special protection needed

9. Physical Properties
Appearance : Flat or corrugated plastic sheets
Physical State : Solid
Color : Clear or colored
Odor : None
Density : 1.35-1.45 gr/cm³
Heat Deflection : 62 - 65°C (144˚F -149˚F)
Boiling Point, 760 Hg : Not relevant
Viscosity : Not relevant
Solubility in Water : <0.1g/100mL at 23˚C
pH Value : Not relevant
Flash Point : 391˚C (735˚F) ASTM D 1929
Autoignition Temp. : 454˚C (849˚F) ASTM D 1921
Flammability Limit : None
Explosion Limits : None
Evaporation Rate : Not relevant
Percent Volatiles : Not relevant
10. Stability and Reactivity

10.1. Stability
Stable.

Conditions to avoid
Excessive heat, or open flame. Temperature above 150°C (302°F) will decompose raw polymer resin and liberate HCl.

Incompatible materials
Oxidizing agents or strong mineral acids can cause reaction.

Thermal decomposition
Begins above 150°C (302°F) caused by fire, overheating during improper processing. Fumes damaging to health may be released.

Hazardous decomposition products
Burning can produce the following combustion products:
- Carbon monoxide (CO) - is highly toxic if inhaled;
- Carbon dioxide (CO₂) - in sufficient concentrations can act as an asphyxiant;
- Hydrogen chloride (HCl) - in high concentrations cause irritation of the respiratory passages, at very high concentrations may cause burns to mucous membranes.

10.2. Reactivity
Hazardous polymerization: Will not occur
Hazardous reactions: None

11. Toxicological Information

PVC materials have a very low acute toxicity. In rats an acute LD₅₀ > 10 gr/kg of body weight.

PNEUMOCONIOSIS has been described from inhalation of combustion products (effects of overexposure). Industrial hygiene studies have shown that under normal and expected conditions of use of PVC materials, exposures are well below applicable limits.

11.1. Acute Toxicological Information
Acute oral toxicity: None
Acute percutaneous toxicity: None
Acute vapor exposure: None
Primary skin irritation: No irritation
Eye irritation: No irritation
Sensitization: No information available
Chronic effects: Unknown
Carcinogenicity- NTP: Not listed
Carcinogenicity- IARC: Not listed
Carcinogenicity- OSHA: Not listed

11.2. Other Toxicological Information
No known toxicological effects with normal use. For heating see section 10.

11.3. Additional Information
No additional toxicity information currently available.

12. Ecological Information

12.1. Persistence and Degradability
Detailed studies have not been conducted concerning the environmental fate of the product. According to present knowledge no unfavorable ecological effects are to be expected. Not generally hazardous to water. Insoluble in water, non-toxic solid.

Mobility: No information currently available
Persistence and biodegradability: Biodegradation period - tens of years.
Bioaccumulative potential: No information currently available.
12.2. Environmental Risks
No hazard expectation to terrestrial or aquatic flora and fauna.
Ecotoxicity: LD₅₀ (rats) > 10 gr/kg
 LC₅₀ (bacterial inhibition) - no data available
Aquatic toxicity: LC₅₀ (daphnia magna) - no data available
 LC₅₀ (fat head minnow - fish) - no data available

12.3. Other Information
All available ecological data have been taken into account for the development of the hazard and precautionary information contained in this safety data.

13. Disposal Considerations
The product is not considered hazardous under current EPA hazardous waste regulations. Recycling is the preferred method of disposal.
Alternatively, the product may be disposed of in an approved landfill.
High temperature incineration under controlled conditions due to formation of HCl.
All wastes should be evaluated in conjunction with applicable solid and hazardous waste regulations, Toxicity Characteristic Leaching Procedures (TCLP), and disposed of as appropriate.
This product does not contain any cadmium or other heavy metal pigments or stabilizers.
It is the user's responsibility to dispose of all wastes in accordance with all national and local regulations at properly permitted or authorized facilities.

14. Transport Information
DOT PSN Code: ZZZ
DOT Proper Shipping Name: Not regulated by this mode of transportation
IMO PSN Code: ZZZ
IMO Proper Shipping Name: Not regulated by this mode of transportation
IATA PSN Code: ZZZ
IATA Proper Shipping Name: Not regulated by this mode of transportation
AFI PSN Code: ZZZ
AFI Proper Shipping Name: Not regulated by this mode of transportation
Additional transportation data: Not currently regulated under Department of Transportation regulations
Labeling: No labeling is required in accordance with the EEC directives
Placarding: No placarding is required in accordance with the EEC directives
Special transport requirements: None
Packaging: Avoid dark-colored packaging to prevent heat distortion

The product is classified as a non-hazardous material in the meaning of transport regulations.

15. Regulatory Information
With regards to dust formed as a consequence of mechanical treatments, the appropriate regulations value limits for fine dust must be observed: MAC value (fine dust) – 5mg/m³. OSHA Hazard Communication Classification for dusts and combustion fumes: Irritant, Skin Hazard, and Lung Hazard. SARA Title III Classification for dusts and combustion fumes: Acute Health Hazard, Chronic Health Hazard.
WHMIS Classification: Non-hazardous

16. Other Information
Recommended Uses And Restrictions
Please consult the relevant product and/or application information for this product.
This document covers safety data concerning the following products:
PALRUF®
PALCLEAR™
PALOPAQUE™
PALDOOR™
PALCLAD™
AG-TUF™
WALLTUF™
HYG (HYGIENIC) PRODUCTS

Further Information
Additional information on this product may be obtained by calling your PALRAM Sales or Customer Service Contact.

Disclaimer
PALRAM believes that the information and recommendations contained (including data and statements) in this PSDS are accurate as of the date hereof.
This PSDS is based on information that is believed to be reliable, but may be subject to change as new information becomes available. Since it is not possible to anticipate all conditions of use, additional safety precautions may be required. The information is neither designed nor recommended for any other use than as safety data, or for use by any other person than the direct user and not for compliance with other laws.
PALRAM does not warrant the suitability for use of this PSDS for any other material or product not specifically identified herein, nor the accuracy or authenticity of this PSDS unless it has been obtained directly from PALRAM.
Since the conditions and methods of use of its products are beyond PALRAM’s control, PALRAM expressly disclaims any and all liability as to any results obtained or arising from any use of the product or reliance on such information and each user is responsible for making its own determination as to the safe and proper handling of this material in its own particular use of this material.
Modification of this PSDS, unless specifically authorized by PALRAM, is strictly prohibited.
No warranty of fitness for any particular purpose, warranty of merchantability, or any other warranty, expressed or implied, is made concerning the information provided herein.