



## PALRAM Industries Ltd. - Headquarters

Ramat Yohanan 30035, Israel  
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# MSDS - Material Safety Data Sheet

## Rigid Polyvinyl Chloride Sheet

Date of Issue: 20 April 2004

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### This Safety Data Sheet conforms to EC Directive 91/155/EEC

PALRAM urges the recipient of this Material 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 SUBSTANCE AND THE COMPANY

### 1.1. IDENTIFICATION OF THE SUBSTANCE OR PREPARATION

TRADE NAMES : **PALRUF<sup>®</sup>, PALCLEAR<sup>™</sup>, PALOPAQUE<sup>™</sup>, PALDOOR<sup>™</sup>, PALCLAD<sup>™</sup>, AG-TUF<sup>™</sup>, WALLTUF<sup>™</sup>, HYG (HYGIENIC) PRODUCTS**

PRODUCT NAME : Rigid Polyvinyl Chloride sheets

CHEMICAL NAME : Polyvinyl Chloride Homopolymer

CHEMICAL FAMILY : Polyvinyl Chloride

FORMULA :  $(CH_2CHCl)_n$

CAS number : 9002-86-2

UN number : None

ACX number : X1007407-8

RTECS : KV0350000

SYNONIMS : PVC

NFPA RATINGS : HEALTH=1, FIRE=0, REACTIVITY=0

### 1.2. COMPANY IDENTIFICATION

PALRAM INDUSTRIES (1990) LTD.  
Ramat Yohanan  
30035, ISRAEL  
Tel: 972 4 8459 900  
Fax: 972 4 8444 012

### 1.3. EMERGENCY TELEPHONE NUMBERS

ISRAEL: Tel: +972 4 8459 979  
Fax: +972 4 8459 910  
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  
**Skin contact** : exposure is not expected to cause adverse health effects  
**Eye contact** : non-relevant

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



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### **4. FIRST AID MEASURES**

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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.

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### **5. FIRE FIGHTING MEASURES**

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#### **5.1. EXTINGUISHING MEDIA**

Water spray or CO<sub>2</sub>. CO<sub>2</sub> 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 clothing, gas mask approved for acid vapours.

#### **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.

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### **6. ACCIDENTAL RELEASE MEASURES**

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No special precautions and no personal protective equipment needed. Collect mechanically for disposal.

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### **7. HANDLING AND STORAGE**

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#### **7.1. HANDLING**

##### **General handling precautions**

Avoid mechanical contact with eyes.



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### 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 railcar for unloading, ventilate before entering.

### 7.2. STORAGE

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

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## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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### 8.1. EXPOSURE LIMITS

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

### 8.2. PERSONAL PROTECTION

<b>Respiratory protection</b>	:	No special protection needed
<b>Hand protection / protection gloves</b>	:	No special protection needed
<b>Eye protection</b>	:	No special protection needed
<b>Other protective equipment</b>	:	No special protection needed

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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APPEARANCE	:	flat or corrugated plastic sheets
PHYSICAL STATE	:	solid
COLOUR	:	clear or colored
ODOR	:	none
DENSITY	:	1.35-1.45 gr/cm <sup>3</sup>
HEAT DEFLECTION	:	62-65°C
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 ASTM D 1929
AUTOIGNITION TEMP.	:	454°C ASTM D 1921
FLAMMABILITY LIMIT	:	none
EXPLOSION LIMITS	:	none
EVAPORATION RATE	:	not relevant
PERCENT VOLATILES	:	not relevant

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## 10. STABILITY AND REACTIVITY

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### 10.1. STABILITY

Stable.

### Conditions to avoid

Excessive heat, or open flame. Temperature above 150°C 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 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 (CO <sub>2</sub> )	-	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.



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### 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 vapour exposure :** none  
**Primary skin irritation :** no irritation  
**Eye irritation :** no irritation  
**Sensitization :** no information available  
**Chronic effects :** unknown  
**Carcinogenicity** - NTP : not listed  
- IARC : not listed  
- 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. PERSISTANCE 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  
: IC50 (bacterial inhibition) - no data available  
**Aquatic toxicity** : LC50 (daphnia magna) - no data available  
: LC50 (fathead 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.



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### 14. TRANSPORT INFORMATION

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

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

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### 15. REGULATORY INFORMATION

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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/m<sup>3</sup>.  
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

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### 16. OTHER INFORMATION

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#### RECOMMENDED USES AND RESTRICTIONS

Please consult the relevant product and/or application information for this product.

#### 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 MSDS are accurate as of the date hereof.

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