



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[®], PALCLEAR[™], PALOPAQUE[™], PALDOOR[™], PALCLAD[™], AG-TUF[™], WALLTUF[™], HYG (HYGIENIC) PRODUCTS**
PRODUCT NAME : Rigid Polyvinyl Chloride sheets
CHEMICAL NAME : Polyvinyl Chloride Homopolymer
CHEMICAL FAMILY : Polyvinyl Chloride
FORMULA : $(CH_2CH_2Cl)_n$
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 & CONTACT

Israel - PALRAM PVC

Address: Ramat Yohanan, 30035, ISRAEL
Tel: +972 4 8459 900
Fax: +972 4 8444 012

UK - PALRAM DPL

Address: 22 Coatham Ave.
Aycliffe Industrial Park
Newton Aycliffe Co.
Durham, DL5 6DB, UK
Tel: +44 1325 300437
Fax: +44 1325 318173

Americas - PALRAM PANELS (PPI)

Address: 9471 Commerce Circle
Kutztown, PA 19530, USA
Tel: +610-285-9918
Fax: +484-647-8210

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

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 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.

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.



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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.

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 / protection gloves	:	No special protection needed
Eye protection	:	No special protection needed
Other protective equipment	:	No special protection needed

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE	:	flat or corrugated plastic sheets
PHYSICAL STATE	:	solid
COLOUR	:	clear or colored
ODOR	:	none
DENSITY	:	1.35-1.45 gr/cm ³
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

10. STABILITY AND REACTIVITY

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 ₂)	-	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. 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
: 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

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.

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.

This MSDS 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.

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