Bondyram® 4108

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

Product information

Trade name	: BONDYRAM® modified resin
Type	: Bondyram 4108
Use of the Substance/Preparation	: Resin for molding and/or extrusion
Company	: Polyram Ram-On Industries Ram On 19205 Israel
Telephone	: ++ (972) 4 6599900
Emergency number	: ++ (972) 4 6599999

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature : LLD Polyethylene, modified, additives

Components

Chemical Name	CAS No.	Concentration
LLDPE	[9002-88-4]	> = 99% wt
Maleic anhydride	[108-31-6]	< = 1% wt

SECTION 3: HAZARDS IDENTIFICATION

Hazardous classification
Not classified as dangerous goods according to ESIS.
Not classified as hazardous according to criteria of NOHSC.

Specific hazards
Not considered immediately hazardous under normal conditions of use.
Can release irritating and/or toxic fumes and vapors if involved in a fire

SECTION 4: FIRST AID MEASURES

General advice	: Remove from exposure, lie down. Never give anything by mouth to an unconscious person. No hazards which require special first aid measures If a person vomits when lying on his back, place him in the recovery position.
Skin contact	: Cool skin rapidly with cold water after contact with molten material. Do not peel polymer from the skin. Obtain medical attention.
Eye contact	: Flush eyes with plenty of water. Get medical attention if irritation develops or persists.
Inhalation	: Move to fresh air in case of accidental inhalation of fumes from overheating or combustion. Consult a physician after significant exposure.
Ingestion	: No hazards which require special first aid measures. Drink water as a precaution.

SECTION 5: FIRE FIGHTING MEASURES

Flammability	: Combustible
Flash point	: 341°C
Auto-ignition temperature	: 330 - 410°C
Suitable extinguishing media	: Carbon dioxide (CO_2), dry powder, foam, water, Halon extinguisher.
Specific hazards during fire fighting	: Large molten masses may ignite spontaneously in air. Under conditions giving incomplete combustion, hazardous gases produced may consist of: Organics, Carbon monoxide. Water quenching is good practice.
Special protective equipment for fire-fighters	: In the event of fire, wear self-contained P1/ P3 breathing apparatus approved by NIOSH. Watch footing on floors and stairs because of possible melting and spreading of material. Use water spray to keep containers cool. Wear suitable protective equipment.
Further information	: Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. Do not allow run-off from fire fighting to enter drains or water courses. Hot polyethylene melts and may drop above 120 oC.
Special Conditions to Avoid	: Dust may form explosive mixtures with air. Prevent an exposure to open flames.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions	: Ventilate the area. Refer to protective measures listed in sections 7 and 8.
Environmental precautions	: Try to prevent the material from entering drains or water courses. Do not contaminate surface water.
Methods for cleaning up	: Clean up promptly by sweeping or vacuum. Sweep up or vacuum up spillage and collect in suitable container for disposal.
Additional advice	: Use mechanical handling equipment.

SECTION 7: HANDLING AND STORAGE

Handling Procedures and Equipment

Advice on safe handling	: No special handling advice required. In case of insufficient ventilation, wear suitable respiratory equipment. For personal protection see section 8. Provide appropriate exhaust ventilation at dryers, machinery and at places where dust or volatiles can be generated. When opening containers, avoid breathing vapors that may be emanating. Protect from contamination.
Advice on protection against fire and explosion	: Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors).
Dust explosion class	: no data available

Storage Requirements

Requirements for storage areas and containers	: Keep container tightly closed in a dry and well-ventilated place. Protect from contamination. Avoid excessive heat. Do not store near strong oxidizing agents and other reactants, as described in Section 10.
Other data	: No decomposition if stored and applied as directed. Storage International Classes: A61B 005/00

SECTION 8: EXPOSURE CONTROL / PERSONAL PROTECTION

Components with workplace control parameters

Components	Values	Control parameters	Basis
Maleic anhydride	TWA A4 not classifiable as a human carcinogen	1 mg/m^3 (0.25 ppm)	NOHSC: 1003(2003)

Engineering measures

Dust : Use adequate ventilation during heating processes, or if dusty conditions prevail when handling powdered materials. For storage and ordinary handling, general ventilation is adequate.

Personal protective equipment

Respiratory protection : The raw material is composed of pellets and not powder. Hence, on normal conditions of use the material does not produce dust. However, if dust is produced, for example in strong abrasive conditions, use appropriate respiratory protection and refer to the National exposure limits.

Hand protection : Protective heat resistant gloves

Eye protection : Safety glasses with side-shields

Skin and body protection : If there is potential contact with hot/molten material, wear heat resistant clothing and footwear. Regular cleaning of equipment, work area and clothing.

Hygiene measures : Do not eat or drink while processing the product; wash hands before breaks. Keep away from food and drink General precaution for all plastics and elastomers: Do not breathe fumes evolved from hot polymer.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical State : Solid

Odor and appearance : Solid, white pellets. No odor

Odor Threshold : NE

Specific Gravity / Density (20 °C) : 0.91 / 0.93 (g/cm 3)

Vapor Density (Air = 1) : NA

Vapor Pressure (mmHg) : Negligible

Evaporation rate : NE

Boiling Point : NA

Melting point / range : 110-133 °C

Thermal decomposition : > 250 °C

pH : NA

Coefficient of Water : NA

Solubility in Water (20 °C) : insoluble

SECTION 10: STABILITY AND REACTIVITY

Stability	: The product is stable under ambient conditions.
Conditions to avoid	: Avoid heating for prolonged periods above the recommended upper processing limit.
Materials to avoid	: Strong acids, oxidizing agents. Reacts violently with fluorine.
Hazardous decomposition products	: Aldehydes, alcohols, acrolein and other organic acids.
Hazardous reactions	: None
Further information	: During drying, purging and molding, small amounts of hazardous gases and/or particulate matter may be released. These may irritate eyes, nose and throat. Large molten masses may give off hazardous gases Water quenching is good practice. No decomposition if used as directed.

SECTION 11: TOXICOLOGICAL INFORMATION

Irritability / Corrosiveness	: None according to conventional methods
Sensitization	: None according to conventional methods
Effect after repeating or long-term exposure	: None according to conventional methods
Carcinogenicity/ mutagenicity/ reproductive toxicity	: None according to conventional methods
Further information	: None

Practical Experience

Observation relevant to classification	: NA
Further observation	: NA
General remarks	: NA

SECTION 12: ECOLOGICAL INFORMATION

Data on elimination (persistence and degradability)	: No data have been developed on this subject. Not considered biodegradable.
Procedure in environmental compartments	: In case of proper discharge (little concentration) into well adapted sewage treatment plants, no obstructions of the activated sludge activity will occur
Ecotoxical effects	: Aquatic toxicity – none. Reaction in sewage treatment plants do not decompose
Heavy metals content	: Free

SECTION 13: DISPOSAL CONSIDERATIONS

Product	: Like most thermoplastic plastics the product can be recycled. Where possible recycling is preferred to disposal or incineration. Do not contaminate ponds, waterways or ditches with chemical or used container. If recycling is not practicable, dispose of in compliance with local regulations. Can be landfilled, when in compliance with local regulations. Discard as non-hazardous organic solid waste.
Contaminated packaging	: Empty containers should be taken for local recycling or waste disposal.
Other Disposal considerations	: The information offered here is for the product as shipped. Use and/or alteration to the product such as mixing with other materials may significantly change the characteristics of the material and alter the RCRA classification and the proper disposal method.

SECTION 14: TRANSPORT INFORMATION

Land transport ADR/RID and GGVS/GGVE

US DOT Hazard Class	: Not regulated.
US DOT ID Number	: Not applicable.
UN – No.	: NA. For additional information on shipping regulations affecting this material, contact the information number found on Section 1.
ADR Classification	: No dangerous good

Inland waterway transport ADN/ADNR

UN – No.	: NA
ADR Classification	: Combustible
Sea transport IMDG / GGVSea	
UN – No.	: NA
Marine pollutant	: None pollutant
Packaging group	: NA
Air transport ICAO- TI and IATA - DGR	
Classification	: Combustible
Packaging group	: NA

Transport / further information

Special Shipping Notes	: This product is not regulated by DOT, IMO, IATA, Canadian TDG and associated regulations, ADR or RID.
EUA	: This product is not subject to the requirements of SARA Title III
TSCA SCA (Toxic Substance Control Act)	: All the ingredient fulfills with CLEAN WATER ACT: This product is considered like material floating.
Regulations of European Community Economica	: All the ingredient fulfills with EINCECS / ELINCS Toxic Substance Control.
ACT (TSCA)	: Products are listed on the TSCA Chemical Inventory. No other TSCA issues.

For additional information on shipping regulations affecting this material, contact the information number found on Section 1.

SECTION 15: REGULATORY INFORMATION

Labeling according to EC-regulations

Hazards symbols and hazard classification – not required.

Hazardous component(s) – none hazardous.

R - Phrases substance/preparation – irrelevant.

S - Phrases substance/preparation – S16, S22.

National regulations

Restriction of occupation – None.

Decree of interference/remarks - NA.

Classification according to VbF/remarks – NA.

SECTION 16: OTHER INFORMATION

Reference

SDS of suppliers, Supported by Material data banks. MSDS – Polyethylene, Polyram, 30/12/2004.
http://encyclopedia the free dictionary.com/list+of+r+phrases.

Abbreviations and
NA = not applicable.

ND = not determined.

NE = not established.

Caution do not use Polyram materials in applications involving implantation within the body; direct or indirect contact with the blood pathway; contact with bone, tissue, tissue fluid or blood; or prolonged contact with mucous membranes. Polyram materials are not designed or manufactured for use in implantation in the human body or in contact with internal body fluids or tissues. Polyram will not provide to customers making devices for such applications any notice, certification or information necessary for such medical device use required by FDA regulation or any other statute. Polyram makes no representation, promise, express warranty or implied warranty concerning the suitability of these materials for use in implantation in the human body or in contact with internal body tissues or fluids.

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