SAFETY DATA SHEET

Section 1. Identification

Product identifier : THERBAN 3627

Material Number : 05977576

Synonym : Hydrogenated Nitrile Rubber (HNBR)

Chemical family : Synthetic rubber

Identified uses : rubber

Supplier/Manufacturer : LANXESS Corporation
Product Safety & Regulatory Affairs
111 RIDC Park West Drive
Pittsburgh, PA 15275-1112
USA

For information: US/Canada (800) LANXESS
International +1 412 809 1000

In case of emergency : Chemtrec (800) 424-9300
International (703) 527-3887
Lanxess Emergency Phone (800) 410-3063.

Section 2. Hazards identification

HAZCOM Standard Status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Physical state : Solid.

Color : Light brown.

Classification of the substance or mixture : SKIN SENSITIZATION. - Category 1

Hazard pictograms :

Signal word : Warning

Hazard statements : May cause an allergic skin reaction.

Hazard Not Otherwise Classified (HNOC) : None known.

Precautionary statements

Prevention : Wear protective gloves. Avoid breathing dust. Contaminated work clothing should not be allowed out of the workplace.

Response : IF ON SKIN: Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical attention.

Storage : Not applicable.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements : Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials and food and drink.

Section 3. Composition/information on ingredients

Substance/mixture : Polymer

Ingredient name	%	CAS number
Triphenyl phosphine	0.1 - 1%	Trade secret.

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. If not breathing, if breathing is irregulor or respiratory arrest occurs, provide artifical respiration, or oxygen by a trained professional, using a pocket type respirator.

Skin contact : Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : May cause an allergic skin reaction.Contact with hot material will cause thermal burns.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : Once sensitized, an allergic skin reaction may occur with reddening, swelling, and rash when subsequently exposed to very low levels. Reddening, itching, swelling, burning and possible permanent damage.

Ingestion : No specific data.

Potential chronic health effects

Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Section 4. First aid measures

Notes to physician : Treat symptomatically. No specific treatment.

Protection of first-aiders : No special measures required.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire. In case of fire, use water spray (fog), foam or dry chemical.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : Toxic and irritating gases/fumes may be given off during burning or thermal decomposition.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up : Move containers from spill area. Approach release from upwind. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal. Prevent entry into sewers, water courses, basements or confined areas.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Use only with adequate ventilation. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container. Remove contaminated clothing and protective equipment before entering eating areas. Workers should wash hands and face before eating, drinking and smoking. Put on appropriate personal protection equipment. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed.

Section 7. Handling and storage

Conditions for safe storage : Do not store above the following temperature: 35°C (95°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. Empty containers retain product residue and can be hazardous. Do not reuse container.

Section 8. Exposure controls/personal protection

Occupational exposure limits

No exposure limit value known.

Appropriate engineering controls : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Personal protection

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Respiratory protection : Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Skin protection : Wear cloth work clothing including long pants and long-sleeved shirts. When handling hot material, wear heat-resistant protective gloves that are able to withstand the temperature of molten product. Suitable protective footwear.

Eye/face protection : If contact with product is possible, wear safety glasses with side shields.

Medical Surveillance : Not available.

Section 9. Physical and chemical properties

Physical state : Solid. [rubber bales]

Color : Light brown.

Odor : Faint odor.

Odor threshold : Not available.

pH : Not available.

Boiling point : Not available.

Melting point : Not available.

Flash point : Closed cup: >300°C (>572°F)

Evaporation rate : Not available.

Explosion limits : Not available.

Vapor pressure : Not available.

Density : 0,96 g/cm³ [20°C (68°F)]

Specific gravity (Relative density) : Not available.

Solubility : Insoluble in the following materials: cold water

Partition coefficient: n-octanol/water : Not available.

Vapor density : Not available.

Viscosity : Not available.

Ignition temperature : >300°C

Section 9. Physical and chemical properties

Auto-ignition temperature : Not available.

Decomposition temperature : >300°C

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : Keep away from heat and direct sunlight.

Incompatible materials : No specific data.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on the likely routes of exposure : Dermal contact.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : May cause an allergic skin reaction.Contact with hot material will cause thermal burns.

Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : Once sensitized, an allergic skin reaction may occur with reddening, swelling, and rash when subsequently exposed to very low levels. Reddening, itching, swelling, burning and possible permanent damage.

Ingestion : No specific data.

Potential chronic health effects

Short term exposure

Potential immediate effects : Not available.

Long term exposure

Potential delayed effects : Not available.

General : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Information on toxicological effects

Acute toxicity

Section 11. Toxicological information

Product/ingredient name	Result	Species	Dose	Exposure	Test
Triphenyl phosphine	LD50 Oral	Rat	>700 mg/kg	-	-
Triphenyl phosphine	LD50 Dermal	rabbit - Male, Female	>4000 mg/kg Dosage caused no mortality	-	-
Triphenyl phosphine	LC50 Inhalation Dusts and mists LC50 Inhalation Dusts and mists	Rat Rat	>16,8 mg/l 12,5 mg/l	1 hours 4 hours	- -

Irritation/Corrosion

Conclusion/Summary

Skin : Triphenyl phosphine:Non-irritating (Rabbit)

Eyes : Triphenyl phosphine:Non-irritating (Rabbit)

Sensitization

Product/ingredient name	Route of exposure	Species	Result
Triphenyl phosphine	skin	Guinea pig	Sensitizing

Skin : Triphenyl phosphine:sensitizer

Chronic toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Triphenyl phosphine	Sub-chronic NOAEL Oral	Rat - Male, Female	6 mg/kg bw/day	91 days; 7 days per week
	Sub-chronic LOAEL Oral	Rat - Male, Female	60 mg/kg bw/day	91 days; 7 days per week
	Chronic NOAEL Inhalation Dusts and mists	Dog - Male, Female	<0,0018 mg/l	28 days; daily
	Sub-acute LOAEL Inhalation Dusts and mists	Rat - Male	2400 mg/m³	12 weeks; 4 hours per day

Mutagenicity

Product/ingredient name	Test	Experiment	Result
Triphenyl phosphine	471 Bacterial Reverse Mutation Test Micronucleus assay	Experiment: In vitro Subject: Bacteria Experiment: In vivo Subject: Mammalian-Animal	Negative Negative

Carcinogenicity

Product/ingredient name	CAS #	IARC	NTP	OSHA
Triphenyl phosphine	Trade secret.	Not classified.	Not classified.	Not classified.

Reproductive toxicity

Section 11. Toxicological information

Product/ingredient name	Maternal toxicity	Species	Dose	Exposure
Triphenyl phosphine		Rat	Oral: 6 mg/kg bw/ day	91 days; 7 days per week
		Rat	Oral: 120 mg/kg bw/ day	91 days; 7 days per week

Acute toxicity estimates

Route	ATE value (Acute Toxicity Estimates)
Not available.	

Section 12. Ecological information

Toxicity

Product/ingredient name	Test	Result	Species	Exposure
Triphenyl phosphine	OECD 201 Alga, Growth Inhibition Test	Acute EC50 >5 mg/l Fresh water	Algae - Desmodesmus subspicatus	72 hours (biomass) , (growth rate)
	DIN 38412 Part 27	Acute EC50 >10000 mg/l	Bacteria - Activated sludge	30 minutes
	OECD 202 *Daphnia* sp. Acute Immobilization Test	Acute EC50 >5 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	DIN 38412, L15	Acute LC50 >10000 mg/l Fresh water	Fish - Leuciscus idus	96 hours
	OECD 201 Alga, Growth Inhibition Test	Chronic NOEC >5 mg/l Fresh water	Algae - Desmodesmus subspicatus	72 hours

Conclusion/Summary : Not available.

Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
Triphenyl phosphine	OECD 301F Ready Biodegradability - Manometric Respirometry Test	<20 % - Not readily - 28 days	-	Activated sludge

Conclusion/Summary : Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Triphenyl phosphine	-	-	Not readily

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Triphenyl phosphine	>2.587	30	low

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Waste disposal should be in accordance with existing federal state, provincial and or local environmental controls laws.

RCRA classification : : If discarded in its purchased form, this product would not be a hazardous waste either by listing or by characteristic. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste. (40 CFR 261.20-24)

Section 14. Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
DOT Classification	-	-	-	-		Not regulated.
IMDG Class	-	-	-	-		Not regulated.
IATA-DGR Class	-	-	-	-		Not regulated.

PG* : Packing group

RQ : 0 lbs

Section 15. Regulatory information

SARA 311/312 : Not applicable.

SARA Title III Section 302 Extremely Hazardous Substances : None

SARA Title III Section 313 Toxic Chemicals : None

US EPA CERCLA Hazardous Subtances (40 CFR 302) : None

State regulations

The following chemicals are specifically listed by individual states; other product specific health and safety data in other sections on the SDS may also be applicable for state requirements. For details on your regulatory requirements you should contact the appropraite agency in your state.

Ingredient name	CAS number	State Code	Concentration (%)
Hydrogenated Acrylonitrile-Butadiene Copolymer	88254-10-8		95 - 100%

Massachusetts Substances: MA - S
Massachusetts Extraordinary Hazardous Substances: MA - Extra HS
New Jersey Hazardous Substances: NJ - HS
Pennsylvania RTK Hazardous Substances: PA - RTK HS
Pennsylvania Special Hazardous Substances: PA - Special HS

California Prop. 65

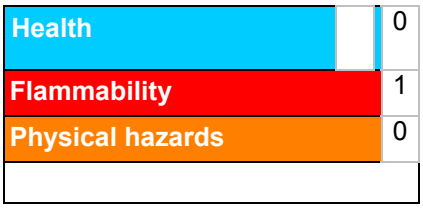
To the best of our knowledge, this product does not contain any of the listed chemicals, which the state of California has found to cause cancer, birth defects or other reproductive harm.

Section 15. Regulatory information

U.S. Toxic Substances Control Act : Listed on the TSCA Inventory.

Section 16. Other information

Hazardous Material Information System :



0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme
***=Chronic**

The customer is responsible for determining the PPE code for this material. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

National Fire Protection Association (U.S.A.) :

0= Minimal 1=Slight 2=Moderate 3=Serious 4=Severe

LANXESS' method of hazard communication is comprised of Product Labels and Safety Data Sheets. HMIS and NFPA ratings are provided by LANXESS as a customer service.

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Product Safety and Regulatory Affairs

Indicates information that has changed from previously issued version.

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