

Section 1. Identification

Product identifier	: THERBAN AT 3404
Material Number	: 56270799
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	: While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.
Physical state	: Solid.
Color	: Light brown.
Classification of the substance or mixture	: Not classified.
Signal word	: No signal word.
Hazard statements	: No known significant effects or critical hazards.
Hazard Not Otherwise Classified (HNOC)	: None known.
Precautionary statements	
Prevention	: Not applicable.
Response	: Not applicable.
Storage	: Not applicable.
Disposal	: Not applicable.
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

The following potentially hazardous ingredient(s) are used to formulate this product. As supplied, the ingredient(s) are bound in a polymer matrix. Because they are bound in the matrix, they are not expected to create any unusual hazards when handled and processed. according to good manufacturing and industrial hygiene practices and the guidelines provided by this MSDS.

Section 3. Composition/information on ingredients

Ingredient name	%	CAS number
Triphenyl phosphine	0.1 - 1%	Trade secret.
Proprietary Additive	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** : No known significant effects or critical hazards.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. 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.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Get medical attention if thermal burns occur.
- 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. Get medical attention if symptoms occur.

Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : 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** : Reddening, itching, swelling, burning and possible permanent damage.
- Ingestion** : No specific data.

Potential chronic health effects

No known significant effects or critical hazards.

- 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.

Section 5. Fire-fighting measures

- 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. 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. Vacuum or sweep up material and place in a designated, 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. If molten, allow material to cool and place into an appropriate marked container for disposal. Prevent entry into sewers, water courses, basements or confined areas.

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : 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.
- 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 or liners may retain some product residues.

Section 8. Exposure controls/personal protection

Occupational exposure limits

No exposure limit value known.

- Appropriate engineering controls** : Thermal processing operations should be ventilated to control gases and fumes given off during processing.

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. 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.

Section 8. Exposure controls/personal protection

- Skin protection** : Wear cloth work clothing including long pants and long-sleeved shirts. gloves , 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** : 1 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
- 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. Eye contact.
- Potential acute health effects**
- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : 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.

Section 11. Toxicological information

- Inhalation** : No specific data.
- Skin contact** : 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** : No known significant effects or critical hazards.
- 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

Product/ingredient name	Result	Species	Dose	Exposure	Test
Triphenyl phosphine	LD50 Oral	Rat	>700 mg/kg	-	-
Proprietary Additive	LD50 Oral	Rat	>5000 mg/kg	-	-
Triphenyl phosphine	LD50 Dermal	rabbit - Male, Female	>4000 mg/kg	-	-
Proprietary Additive	LD50 Dermal	Rat	Dosage caused no mortality >10000 mg/kg	-	-
Triphenyl phosphine	LC50 Inhalation Dusts and mists	Rat	>16.8 mg/l	1 hours	-
	LC50 Inhalation Dusts and mists	Rat	12.5 mg/l	4 hours	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Proprietary Additive	Skin - Edema	Rabbit	0	4 hours	72 hours
	Eyes - Cornea opacity	Rabbit	0	-	72 hours
	Eyes - Iris lesion	Rabbit	0	-	72 hours
	Eyes - Redness of the conjunctivae	Rabbit	<1	-	72 hours

Conclusion/Summary

- Skin** : Triphenyl phosphine:Non-irritating (Rabbit)
Proprietary Additive:Non-irritating

- Eyes** : Triphenyl phosphine:Non-irritating (Rabbit)
Proprietary Additive:Non-irritating

Sensitization

Section 11. Toxicological information

Product/ingredient name	Route of exposure	Species	Result
Triphenyl phosphine	skin	Guinea pig	Sensitizing
Proprietary Additive	skin	Mouse	Not 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/m ³	12 weeks; 4 hours per day
Proprietary Additive	Chronic NOAEL Oral	Rat - Male	12.7 mg/kg per day	18 months; 7 days per week

Mutagenicity

Product/ingredient name	Test	Experiment	Result
Triphenyl phosphine	471 Bacterial Reverse Mutation Test	Experiment: In vitro Subject: Bacteria	Negative
	Micronucleus assay	Experiment: In vivo Subject: Mammalian-Animal	Negative
Proprietary Additive	OECD 471 Bacterial Reverse Mutation Test	Experiment: In vitro Subject: Bacteria Metabolic activation: +/-	Negative
	OECD 473 <i>In vitro</i> Mammalian Chromosomal Aberration Test	Experiment: In vitro Subject: Mammalian-Animal Metabolic activation: +/-	Negative
	OECD 476 <i>In vitro</i> Mammalian Cell Gene Mutation Test	Experiment: In vivo Subject: Mammalian-Animal Cell: Somatic Metabolic activation: +/-	Negative

Carcinogenicity

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

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
Proprietary Additive		Rat - Male	Oral: 50 mg/kg per day	LOAEL Testicular damage in animals.
		Rat - Male	Oral: 12.5 mg/kg per day	NOAEL

Section 11. Toxicological information

Product/ingredient name	Result	Species	Dose	Exposure
Proprietary Additive	Negative - Oral	Rat	200 mg/kg per day	-

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 - <i>Desmodesmus subspicatus</i>	72 hours (biomass), (growth rate)	
	OECD 202 <i>Daphnia</i> sp. Acute Immobilization Test DIN 38412, L15	Acute EC50 >5 mg/l Fresh water	<i>Daphnia</i> - <i>Daphnia magna</i>	48 hours	
	OECD 201 Alga, Growth Inhibition Test	Acute LC50 >10000 mg/l Fresh water	Fish - <i>Leuciscus idus</i>	96 hours	
	OECD 201 Alga, Growth Inhibition Test	Chronic NOEC >5 mg/l Fresh water	Algae - <i>Desmodesmus subspicatus</i>	72 hours	
	Proprietary Additive	OECD 201 Freshwater Alga and Cyanobacteria, Growth Inhibition Test	NOEC 1.3 mg/l	Algae - <i>Pseudokirchneriella subcapitata</i>	72 hours
		OECD 209 Activated Sludge, Respiration Inhibition Test	Acute EC50 >10000 mg/l	Bacteria	3 hours
		OECD 202 <i>Daphnia</i> sp. Acute Immobilization Test	Acute EC50 >4.8 mg/l	<i>Daphnia</i> - <i>Daphnia magna</i>	48 hours
		OECD 201 Freshwater Alga and Cyanobacteria, Growth Inhibition Test	Acute IC50 >5 mg/l	Algae - <i>Pseudokirchneriella subcapitata</i>	72 hours
		OECD 203 Fish, Acute Toxicity Test	Acute LC50 >5 mg/l	Fish - <i>Oryzias latipes</i>	96 hours
		OECD 211 <i>Daphnia Magna</i> Reproduction Test	Chronic NOEC 0.34 mg/l	<i>Daphnia</i> - <i>Daphnia magna</i>	21 days

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
Proprietary Additive	OECD 301C Ready Biodegradability - Modified MITI	0 % - Not readily - 28 days	-	-

Section 12. Ecological information

	Test (I)			
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Conclusion/Summary : Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Triphenyl phosphine	-	-	Not readily
Proprietary Additive	-	50%; 0.5 day(s)	Not readily

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Triphenyl phosphine	>2.587	30	low
Proprietary Additive	6.25	840	high

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. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. This material and its container must be disposed of in a safe way. 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

Ingredient name

CAS number

RQ

Section 15. Regulatory information

**US EPA CERCLA
Hazardous Substances (40
CFR 302)**

: Monochlorobenzene

Trade secret.

100 lbs. (45.4 kg)

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 appropriate agency in your state.

The concentrations reported below are maximum values.

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

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

Section 16. Other information

**Hazardous Material
Information System**

Health	0
Flammability	1
Physical hazards	0

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.)**

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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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Date of issue

: 08-22-2013

Section 16. Other information

Date of previous issue : 07-17-2013

Version : 2

Product Safety and Regulatory Affairs

▣ Indicates information that has changed from previously issued version.

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