Succeed Life Science Pte. Ltd.

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MATERIAL SAFETY DATA SHEET

NVR® N6476

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name NVR® N6476

Company Contact Information

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Singapore 637 630
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2. COMPOSITION/INFORMATION ON INGREDIENTS

CHEMIAL NAME	CAS#	EINECS#	CONTENT(%)
Acrylonitrile-Butadiene Rubber	9003-18-3	N.A.	67%
Polyvinyl Chloride	9002-86-2	208-750-2	25.3%
other			7.7%

3. PHYSICAL AND CHEMICAL PROPERTIES

Specific Gravity (H2O=1): 1.24
Solubility in Water: Insoluble
% Volatile by Weight: <1 (water vapor)
Appearance and Odor: Pale yellow to tan colored slab with a mild characteristic odor.

4. HAZARDS IDENTIFICATION

Emergency Overview
This product is pale yellow to tan colored slab with a mild characteristic odor. As supplied, this product is not expected to cause any adverse health or physical effects. Processing operations may produce vapors or dust that may cause eye, skin, and respiratory tract irritation. Toxic combustion products may be released under fire conditions.

Potential Health Effects From Overexposure:
Possible routes of entry include skin & eye contact and process vapor or dust inhalation. No adverse health effects are expected during normal processing when potential exposures are eliminated by good industrial hygiene practice and well-ventilated conditions. At processing temperatures, the combined ingredients (elastomer and other processing ingredients) may emit fumes and vapors that may cause irritation to the eyes, skin, nose, throat, and respiratory tract. Processing under conditions of inadequate ventilation may produce symptoms of nausea, dizziness, or headaches. Typically these effects are reversible upon removal from exposure and

no lasting effects are expected. Most importantly, the potential for irritation will depend on the effectiveness of exhaust ventilation provided to the process area.

This product contains a plasticizer that may cause skin, eye, and respiratory tract irritation. These effects are expected being reduced since the plasticizer is incorporated in the product, which would limit potential exposure at ambient temperatures. Avoid contact with vapors or mists that may be produced during processing at elevated temperatures. Appropriate precautions should be taken to minimize potential exposure to accidental ingestion, inhalation of process vapors, mists, or dusts, and skin contact.

Overexposure to decomposition or combustion products may cause irritation of the eyes, skin, and respiratory tract.
Symptoms such as coughing, tearing, and irritation should be regarded as potentially hazardous and measures taken to avoid exposure.

If irritation occurs or persists from any route of exposure, remove the affected individual from the area and seek medical assistance.

5. First Aid Measures

Eye Contact:
Treat as any foreign particulate matter. Flush eyes with running water for several minutes while holding eyelids open. Consult a physician if irritation persists.

Skin Contact:
Remove contaminated clothing. Wash contact area with soap and water for 15 minutes. Seek medical attention if irritation / allergic skin reaction develops.

Particulate Inhalation:
Remove affected individual to fresh air.

Vapor Inhalation (processing vapors or decomposition products):
Remove the affected individual to fresh air. If breathing has stopped, administer artificial respiration and seek medical assistance immediately.

6. FIRE FIGHTING MEASURES

Extinguishing Media:
Water, ABC dry chemical, or Protein type air foams are recommended media. Elastomers would be considered "ordinary combustibles" (NFPA defined Class A). Carbon dioxide is generally not recommended for use on Class A fires as a lack of cooling capacity may result in reignition.

Special Prizefighting Procedures:
Wear positive pressure self-contained breathing apparatus (SCBA) during the attack phase of firefighting operations and during cleanup in enclosed or poorly ventilated areas immediately after a fire. Personnel not having suitable respiratory protection must leave the area to prevent significant exposure to toxic combustion gases from any source.

Unusual Fire and Explosion Hazards:
Special precautions must be taken if elastomers are ground or otherwise formed into a fine powder or dust since many organic substances in these forms present a dust explosion hazard. Toxic gases may be formed upon combustion and represents a hazard to firefighters. See Section 9 for additional information on combustion products.

7. ACCIDENTAL RELEASE MEASURES

If the material is released or spilled, sweep, shovel, or vacuum crumbs or chunks into closed containers for reuse or disposal.

8. HANDLING AND STORAGE

During normal processing, virtually all elastomers will emit fumes and vapors when heated to processing temperatures. The concentration and composition of these vapors will depend on variables such as the specific formulation and processing method and temperature. Always process elastomers under well-ventilated conditions and avoid continued or prolonged breathing of process vapors. Wash thoroughly after processing compound, especially before eating, smoking, or using toilet facilities. Do not use or consume food in processing areas. Do not use processing equipment to heat food.

Clean up following normal processing should be performed under well ventilated conditions. Elastomer may be held at process temperatures for a short time without significant thermal degradation. However exposure to either elevated temperature or excessive time will result in decomposition. Equipment should not be shut down for extended time periods with compound in it or decomposition may occur.

Processing fume condensates, which may include toxic contaminants, may be combustible and should be periodically removed from exhaust hoods, ductwork, and other surfaces. Protective clothing, including impervious gloves, should be worn during cleanup operations to prevent skin contact.

Store in a cool, dry place away from direct light to maintain quality. Abnormal conditions such as equipment malfunction or using improper equipment or procedures, or hang-up or stagnation of material during processing may cause decomposition. Employees involved in removing decomposing material should be provided suitable air-supplied respirators, such as an approved positive pressure self-contained breathing apparatus.

Compounding ingredients added to elastomer products may require special handling. It is the users responsibility to follow the recommended precautions of the individual additive suppliers. Post-processing operations at your workplace or at your customer's workplace involving heat sufficient to result in polymer breakdown emitting smoke and fumes should always be conducted in such a manner to avoid inhalation of fumes. Local exhaust ventilation should be provided to prevent significant employee exposure.

9. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ventilation:
Effective general and, if necessary, local exhaust ventilation must always be provided to draw

fumes or vapors away from workers to prevent routine inhalation. Ventilation must be adequate to maintain the ambient workplace atmosphere below the limits.

Respiratory Protection:
NIOSH approved respiratory protection may be needed if vapors, mists, or dust are generated during handling or processing. Wear a positive pressure air-supplied respirator in situations where there may be potential for elevated airborne exposure such as during equipment malfunction, or product hang-up or stagnation during processing that may result in decomposition**.**

Protective Equipment:
During processing operations, safety glasses and/or goggles suitable for keeping dust or particulate matter out of the eyes should be worn when eye contact is anticipated. Protective gloves should be worn to prevent skin.

10. STABILITY AND REACTIVITY

Stability:
Stable

Hazardous Polymerization:
Will not occur

Conditions to Avoid:
Overheating

Materials to Avoid:
No specific information is available, however strong oxidizers or reducing agents which are generally not compatible with many organic compounds, are not compatible with elastomers.

Hazardous Decomposition Products:
Fumes produced when heated to decomposition temperatures may contain carbon monoxide, carbon dioxide, hydrogen cyanide, oxides of nitrogen, hydrochloric acid, chlorine gas hydrogen chloride and small amounts of aromatic and aliphatic hydrocarbons. Combustion products from rubber, like those of other natural and synthetic materials, must be considered toxic.

11. TOXICOLOGICAL INFORMATION

Rotes of Entry:
Skin contact, Eye contact, Inhalation

Symptoms of overexposure:
At processing temperatures, the combined ingredients (elastomer and other processing ingredients) may emit fumes and vapors that may cause irritation to the eyes. Processing operations may create vapors or fumes which may cause respiratory tract irritation.

12. ECOLOGICAL INFORMATION

No information available.

13. DISPOSAL CONSIDERATIONS

Disposal / Product:
For recycling, consult manufacturer
Disposal / Contaminated packaging:
Uncontaminated packaging may be taken for recycling. Packaging that cannot be cleaned should be disposed of as for product.

14. TRANSPORT INFORMATION

Land transport

ADR Not classified as a dangerous good under transport regulations. RID Not classified as a dangerous good under transport regulations.

Inland waterway transport

AND Not classified as a dangerous good under transport regulations.

Sea transport

IMDG Not classified as a dangerous good under transport regulations.

Air transport

IATA/ICAO Not classified as a dangerous good under transport regulations.

15. OTHER REGULATORY INFORMATION

Classification: **Not Classified**
Risk phrases: **-**
Safety phrases: **-**

Additional Right-to-Know Information on Components:

Component	CAS #	Key (See below)	
Acrylonitrile	107-13-1	2, 8	
1,3-Butadiene	106-99-0	2, 8	
Polyvinyl Chloride	9002-86-2	7, 13	
Acrylonitrile / Butadiene Polymer	9003-18-3	7, 13	*

Key	Description	Key	Description
1.	Reserved	8.	MA Extraordinary Hazardous Substance above 1 ppm
2.	CA Listed Carcinogen	9.	MA Toxic or Hazardous Substance above 1%
3.	CA Listed Reproductive Toxin	10.	NJ Hazardous Substance above 1%
4.	PA Special Hazardous Substance above 0.01%	11.	NJ Special Health Hazard Substance above 0.1%
5.	PA Hazardous Substance above 1%	12.	NJ Environmental Hazardous Substance above 1%
6.	PA Non-Hazardous Substance above 3%	13.	NJ Non-Hazardous Substance above 1%
7.	PA Non-Hazardous Substance above 5%	14.	Canadian WHMIS Ingredient Disclosure List Substance

16. OTHER INFORMATION

Hazard Rating System Classifications:

	NFPA	HMIS	Key: 0=least; 1=slight; 2=moderate; 3=high; 4 =extreme
Health	2	1	National Fire Protection Association rating identifies hazards during a fire emergency.
Flammability	1	1	Hazardous Materials Identification System rating applies to products as packaged.
Reactivity	0	0	

Appendix A - Acrylonitrile
This listed by OSHA as a carcinogen, by the International Agency for Research on Cancer (IARC) as a Group 2B carcinogen (possibly carcinogenic to humans), by NTP as an anticipated human carcinogen, and by ACGIH as a suspected human carcinogen. Air sampling studies conducted on related acrylonitrile / butadiene polymers under simulated compound processing conditions showed airborne concentrations of acrylonitrile to be below one (1) ppm. Users should not rely on manufacturers' data alone, but should do sufficient in-plant testing for acrylonitrile levels to assure compliance of their operations.

Appendix B - Butadiene
This product contains trace amounts of butadiene. Butadiene is regulated by OSHA at 29 CFR 1910.1051. Butadiene is listed by the International Agency for Research on Cancer (IARC) as a Group 2A carcinogen (probably carcinogenic to humans), by NTP as a known human carcinogen, and by ACGIH as a suspected human carcinogen.

Appendix C - Vinyl Chloride
This product contains a trace amount of vinyl chloride monomer (VCM). The OSHA Standard on vinyl chloride, 29 CFR 1910.1017, requires all facilities where PVC (including blends of PVC with other polymers) is processed be monitored to determine concentrations of vinyl chloride monomer in the workplace air. Exposures cannot exceed 1 ppm on an 8 hour Time Weighted Average (TWA) or 5 ppm in any 15 minute time period.

If the Action Level (0.5 ppm TWA) is exceeded, the workplace employer is required to comply with certain parts of the OSHA Standard. Residual VCM in the product covered by this MSDS is below 25 ppm. With current industrial hygiene practices, including adequate ventilation, it is possible to use this product without exceeding any of the current exposure limits. Compliance with the Vinyl Chloride Standard requires the workplace employer to implement a program of initial monitoring to establish whether the Action Level is exceeded. VCM is listed by OSHA as a carcinogen, by the International Agency for Research on Cancer (IARC) as a Group 1 carcinogen (sufficient evidence of carcinogenicity in humans), by NTP as a human carcinogen, and by ACGIH as a confirmed human carcinogen.

User's Responsibility
This bulletin cannot cover all possible situations which the user may experience during processing. Each aspect of your operation must be examined to determine if, or where, additional precautions may be necessary. All health and safety information contained in this bulletin must be provided to your employees or customers. It is your responsibility to use this information to develop appropriate work practice guidelines and employee instructional programs for your operation.

This product is for general industrial use. If you use it for food, medical care and other special use, please use under your confirmation of safety for that use, or please talk with us beforehand.

Disclaimer of Liability
As the conditions or methods of use are beyond our control, we do not assume any responsibility and expressly disclaim any liability for any use of this material. Information contained herein is believed to be true and accurate but all statements or suggestions are made without warranty, expressed or implied, regarding accuracy of the information, the hazards connected with the use of the material or the results to be obtained from the use thereof. Compliance with all applicable federal, state, and local laws and regulations remains the responsibility of the use.