



Material Safety Data Sheet

1 PRODUCT AND COMPANY IDENTIFICATION

Product Name	Vyloshot GM-960-R02
Product Code	GM-960-R02
Supplier	
Name	TOYOBO CO., LTD.
Address	2-8 Dojima Hama 2-chome, Kita-Ku OSAKA 530-8230 JAPAN
Telephone No.	+81-6-6348-3773 (9am -6pm Japan Standard Time Mon-Fri)
Fax No.	+81-6-6348-3752
e-mail	osaka_vylon@toyobo.jp tokyo_vylon@toyobo.jp
Emergency telephone number	
Toyobo America, Inc.	Telephone : 1-(212)317-9245 9am – 6 pm EST Mon-Fri
Use of the substance/preparation	Raw material for industrial molded plastics

2 HAZARD IDENTIFICATION

Most Important Hazards	
Adverse Human Health Effects	A harmful influence on person's health is small in a usual state.
Physical and Chemical Hazard	Combustible with the existence of ignition source.
Specific Hazards	Fumes or vapours generated from melting product or powder cause the irritation of respiratory organ and eyes.
GHS Classification	Not classified

3 COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Product (Substance/Preparation)	Preparation		
Chemical Nature	Polyester resin preparation		
Components			
Chemical Name or Generic Name	Saturated polyester resin	Carbon black	Nonylphenol
CAS No.	Copolyester resin		
Concentration	Trade secret	1333-86-4	25154-52-3
GADSL	99%<	0.05~1%	0.05~0.25%
	Not-listed	Not-listed	Listted Declaration※
Components Contributing to the Hazard	Substances classified as hazardous are less than 1%. ※It must be declared if it exceeds the defined threshold limits(0.1wt%).		

4 FIRST-AID MEASURES

Inhalation	In case of irritation by inhaling fumes or gases generated from molten product, move affected person to fresh air and await recovery. If irritation persists, seek immediate medical attention.
Skin Contact	In case of molten product, cool down and wash with cold water, immediately.
Eye Contact	In case of molten product, cool down and flush eyes with cold water for more than 15 minutes and seek medical attention. In case of solid product, flush eyes with clean water. If irritation persists, seek medical attention.
Ingestion	Induce vomiting. If indisposition continues, seek medical attention.

5 FIRE-FIGHTING MEASURES

Extinguishing Media	Dry chemical powder, Carbon dioxide, Foam, Dry sand,etc.
Specific Hazards	Emits toxic gases (aldehyde, carbon mono-oxide,tetrahydrofuran) under imperfect
Specific Methods	In case of a big fire, use fire extinguisher of foam type to cut off air. Do not sprinkle water on machines.
Protection of Firefighters	The fire-fighting work is done from the windward. In case of big fire, be sure to wear the respiratory protection.

6 ACCIDENTAL RELEASE MEASURES

Personal Precautions	Avoid slipping on pellets or powder. Few adverse human health effects are anticipated.
Environmental Precautions	Do not dispose and stay in environment because this product is combustible.Do not dispose and stay in environment, because this product is combustibl and stays for a long time. Prevent sea animals and birds from ingestion.
Methods for Cleaning up	Sweep-up thoroughly with a vacuum-cleaner or a broom.



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7 HANDLING AND STORAGE

HANDLING

Technical Measures	Static electricity may generate while handling. No sparks with flammable materials. For melting, set up a good ventilation and exhaust system in the work area. Do not keep product for a long period at high temperatures.
Precautions	Keep away from fire or heat.
Safe Handling Advice	Do not breathe fumes or vapours from molten products Do not touch molten product with unprotected hands.

STORAGE

Technical Measures	Do not make high piles of containers.
Storage Conditions	Store in good-ventilated place. Keep away from flame and heat-source.
Incompatible Products	Strong alkalines, oxidizing materials or combustible materials.
Packaging Materials	Paper

8 EXPOSURE CONTROLS/ PERSONAL PROTECTION

ENGINEERING MEASURES

A good ventilation and local exhaust system is necessary for melting or powder-generating operations.
Eye washing apparatuses and showers should be provided near the work place.

PERSONAL PROTECTIVE EQUIPMENT

Respiratory Protection	In case of powder generating operations, wear a suitable dust mask.
Hand Protection	In case of processing molten products, wear heat-protective gloves.
Eye Protection	Wear eye-protection goggles.
Skin and Body Protection	In case of processing molten products, wear long sleeves to prevent contact with skin.

9 PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Solid, Pellet
Colour	Black
Odour	None
pH	Not applicable
Melting Point	160°C
Flash Point	No data
Explosion Properties	None at ambient temperature
Density	1.11 g/cm ³ (30°C)
Solubility	Less than 0.1% in water. Soluble in organic solvents.

10 STABILITY AND REACTIVITY

Stability	Stable
Possible Hazardous Reactions	None
Conditions to Avoid	Avoid open fire or heated environment of over 200 °C.
Material to Avoid	Strong alkalines and compound reactive to polyester resins
Hazardous Decomposition Products	Aldehyde ,carbon mono-oxide and tetrahydrofuran under combustion

11 TOXICOLOGICAL INFORMATION

Acute Toxicity	No information is available.
Local Effects	Fumes or vapours from molten materials cause eye and respiratory organ irritation.

12 ECOLOGICAL INFORMATION

Mobility	Unlikely to move in environment.
Persistence/Degradability	Persist for a long time in environment.
Bioaccumulation	Unlikely to occur.

13 DISPOSAL CONSIDERATIONS

Waste from Residues	Disposes in accordance with all applicable local and national laws and regulations.
Contaminated Packaging	Dispose as well as the material.

14 TRANSPORT INFORMATION

International Regulations	
UN Classification Number	Not classified.
Specific Precautions	Follow all of the laws and regulations in your country. Do not damage containers. Keep paper packages dry. Handle bags with care. In case of spillage, sweep up immediately to prevent people from slipping. Pay attention not to pile-up containers leading to possible collapse.



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15 REGULATORY INFORMATION

Substance Name	Saturated co-polyester	Carbon black
CAS-No.	Trade secret	1333-86-4
OSHA STATUS	Not listed	Limited as Air Contaminants
TSCA STATUS	Listed	Listed
EINECS	Monomers and other ingredients are all listed.	Listed
Korean Existing Chemicals Inventory	Listed	Listed
Inventory Existing Chemicals Substances in China	Listed	Listed
CERCLA	Not hazardous substance	Not hazardous substance
SARA TitleIII		
§302 extremely hazardous substances :	No	No
§311/312 hazardous categories :	None hazardous	None hazardous
§313 toxic chemicals :	No	No
RCRA STATUS	No	Not hazardous waste
California proposition 65	No	No

Follow all of the laws and regulations in your country
 Neither the polymer nor its components is classified as 'N'
 (noxious to the environment) according to Council Directive 67/548/EEC as amended.

16 OTHER INFORMATION

Hazard rating classification	NFPA
Health	0
Flammability	1
Reactivity	0

Specific Hazard;None

Notice

The information in this MSDS, to the best of our knowledge, is accurate and correct.
 However, TOYOBO makes no warranty and assumes no liability whatsoever in connection with any use of this information.

The MSDS is subject to revision as new information becomes available.