

SAFETY DATA SHEET

MD360HP-7035

Version 1.0

Revision Date 04/04/2022

Former date -

SECTION 1. IDENTIFICATION

Product name : MD360HP-7035

Manufacturer or supplier's details

Supplier : Borealis Compounds Inc
176 Thomas Road, NJ 07865 Port Murray, United States of America (USA)
Telephone: +1 908 850 6200

E-mail address : sds@borealisgroup.com

Recommended use of the chemical and restrictions on use

Recommended use : Raw material for plastics industry

Restrictions on use : Use only according to our recommendations.

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Reproductive toxicity : Category 2

GHS label elements

Hazard pictograms :



Signal word : Warning

Hazard statements : H361f Suspected of damaging fertility.

Precautionary statements : **Prevention:**
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:
P308 + P313 IF exposed or concerned: Get medical advice/ attention.

Storage:

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P405 Store locked up.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Additional Labelling

The following percentage of the mixture consists of ingredient(s) with unknown acute toxicity:
37.3699 %

Other hazards

Warning!

May form combustible dust concentrations in air (during processing).

The product burns, but is not classified as flammable.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)
magnesium silicate	14807-96-6	$\geq 20 - < 30$
magnesium calcium carbonate	16389-88-1	$\geq 1 - < 5$
titaniumdioxide	13463-67-7	$\geq 0.1 - < 1$
quarts	14808-60-7	$\geq 0.1 - < 1$
bis(2,2,6,6-tetramethyl-4-piperidinyl)decanedioate	52829-07-9	$\geq 0.1 - < 1$

Actual concentration is withheld as a trade secret

SECTION 4. FIRST AID MEASURES

- If inhaled : Move to fresh air.
- In case of skin contact : If molten material comes in contact with the skin, cool with plenty of water. DO NOT remove solidified product, as removal could result in severe tissue damage. Obtain medical attention.
- In case of eye contact : Flush eyes with water as a precaution. Get medical attention if irritation develops and persists.
- If swallowed : Rinse mouth with water. Consult a physician if necessary.
- Most important symptoms and effects, both acute and delayed : Inhalation of dust may irritate the respiratory tract. Prolonged inhalation of high doses of decomposition products may give headache or irritation of the respiratory tract.
- Notes to physician : Treat symptomatically. No specific instructions needed.

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SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Water in spread jet, dry chemicals, foam or carbon dioxide.

Unsuitable extinguishing media : High volume water jet

Specific hazards during firefighting : Principal toxicant in the smoke is carbon monoxide.

Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

Special protective equipment for firefighters : Wear self-contained breathing apparatus and protective suit.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.
Ensure adequate ventilation.

Environmental precautions : Should not be released into the environment.

It is recommended to implement systems and practices (such as Operation Clean Sweep®) to prevent accidental release of plastics in to the environment.

Methods and materials for containment and cleaning up : Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration.
Non-sparking tools should be used.
Vacuum or sweep up spill.
All spill of material must be removed immediately to prevent slipping accidents.
Recycle or dispose loose material properly.
Do not flush into surface water or sanitary sewer system.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion : Dust from the product gives a potential risk for dust explosion.
Minimize dust generation and accumulation.
Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces.
All equipment shall be grounded.

Advice on safe handling : During processing and thermal treatment of the product, small amounts of volatile hydrocarbons may be released.
Provide adequate ventilation.
Local exhaust ventilation may be necessary.

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Avoid inhalation of dust and decomposition fumes.
Avoid contact with skin and eyes.

Conditions for safe storage : Safety aspects do not require any special precautions in terms of storage.

Further information on storage stability : Keep in a dry place.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
magnesium silicate	14807-96-6	TWA (Respirable)	2 mg/m ³	NIOSH REL
		TWA (Respirable particulate matter)	2 mg/m ³	ACGIH
		TWA (Dust)	20 Million particles per cubic foot	OSHA Z-3
		TWA (respirable dust fraction)	2 mg/m ³	OSHA P0
magnesium calcium carbonate	16389-88-1	TWA	0.1 fibres per cubic centimeter	ACGIH
		TWA (Respirable)	5 mg/m ³ (Calcium carbonate)	NIOSH REL
		TWA (total)	10 mg/m ³ (Calcium carbonate)	NIOSH REL
titaniumdioxide	13463-67-7	TWA (total dust)	15 mg/m ³	OSHA Z-1
		TWA (Total dust)	10 mg/m ³	OSHA P0
		TWA	10 mg/m ³ (Titanium dioxide)	ACGIH
quarts	14808-60-7	TWA (respirable)	10 mg/m ³ / %SiO ₂ +2	OSHA Z-3
		TWA (respirable)	250 mppcf / %SiO ₂ +5	OSHA Z-3
		TWA (respirable dust fraction)	0.1 mg/m ³	OSHA P0
		TWA	0.025 mg/m ³	ACGIH

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		(Respirable particulate matter)	(Silica)	
		TWA (Respirable dust)	0.05 mg/m3 (Silica)	NIOSH REL
		TWA (Respirable dust)	0.05 mg/m3	OSHA Z-1
		PEL (respirable)	0.05 mg/m3	OSHA CARC

Engineering measures : Provide adequate ventilation.
Local exhaust ventilation may be necessary.

It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen deficient environment.

Personal protective equipment

Respiratory protection : In case of dust development use dust mask.
In the case of vapour formation use a respirator with an approved filter.

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. The filter class for the respirator must be suitable for the maximum expected contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used.

Hand protection

Remarks : Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.

Eye protection : Safety glasses

Skin and body protection : Protective clothing

Hygiene measures : When using do not eat, drink or smoke.
Wash hands before breaks and at the end of workday.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

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Appearance	:	pellets
Colour	:	light grey
Odour	:	odourless
pH	:	Not applicable insoluble
Melting point/range	:	266 - 338 °F / 130 - 170 °C
Boiling range	:	Decomposes on heating.
Flash point	:	Not applicable (solid)
Evaporation rate	:	Not applicable (solid)
Flammability (solid, gas)	:	The product is not flammable.
Upper explosion limit / Upper flammability limit	:	Not applicable
Lower explosion limit / Lower flammability limit	:	Not applicable
Vapour pressure	:	Not applicable (solid)
Density	:	1.1 - 1.2 g/cm ³
Bulk density	:	500 - 600 kg/m ³
Solubility(ies) Water solubility	:	insoluble
Partition coefficient: n-octanol/water	:	Not applicable insoluble
Auto-ignition temperature	:	> 608 °F / > 320 °C
Viscosity Viscosity, kinematic	:	No data available
Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.
Particle size	:	3 - 10 mm

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SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	Stable under recommended storage conditions.
Chemical stability	:	The product is a stable thermoplastic, with no chemical reactivity.
Possibility of hazardous reactions	:	None known.
Conditions to avoid	:	Extremes of temperature and direct sunlight.
Incompatible materials	:	None known.
Hazardous decomposition products	:	Under fire conditions: Carbon monoxide

During processing and thermal treatment of the product, small amounts of volatile hydrocarbons may be released.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Components:

bis(2,2,6,6-tetramethyl-4-piperidinyloxy)decane-1,10-diol:

Acute oral toxicity	:	LD50 (Rat): 3,700 mg/kg
Acute inhalation toxicity	:	LC50 (Rat): 0.5 mg/l Exposure time: 4 h
Acute dermal toxicity	:	LD50 (Rat): > 3,170 mg/kg

Carcinogenicity

Product:

Remarks	:	The classification as a carcinogen by inhalation applies only to mixtures in powder form containing 1 % or more of titanium dioxide which is in the form of or incorporated in particles with aerodynamic diameter $\leq 10 \mu\text{m}$.
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IARC	Group 1: Carcinogenic to humans magnesium silicate	14807-96-6
	Group 1: Carcinogenic to humans quartz (Silica dust, crystalline)	14808-60-7
	Group 2B: Possibly carcinogenic to humans titaniumdioxide	13463-67-7

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OSHA	OSHA specifically regulated carcinogen quarts (crystalline silica)	14808-60-7
NTP	Known to be human carcinogen magnesium silicate (Silica, Crystalline (Respirable Size))	14807-96-6
	Known to be human carcinogen quarts (Silica, Crystalline (Respirable Size))	14808-60-7

Further information

Product:

Remarks : Inhalation of dust may irritate the respiratory tract.
Prolonged inhalation of high doses of decomposition products may give headache or irritation of the respiratory tract.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

bis(2,2,6,6-tetramethyl-4-piperidiny)decanedioate:

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0.57 mg/l
Exposure time: 48 h
Test Type: Short term

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : EC50 (Daphnia magna (Water flea)): 0.96 mg/l
Exposure time: 21 d

Persistence and degradability

Product:

Biodegradability : Remarks: Not readily biodegradable.

Bioaccumulative potential

Product:

Bioaccumulation : Remarks: Does not accumulate in organisms.

Mobility in soil

Product:

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Mobility : Remarks: Not expected to adsorb on soil.
Remarks: The product is insoluble and sinks in water.

Other adverse effects

Product:

Additional ecological information : Should not be released into the environment.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : This substance, when discarded or disposed of is not specifically listed as a hazardous waste in Federal regulations. However, it could be hazardous if it is considered toxic, corrosive, ignitable or reactive according to Federal definitions (40 CFR 261). Additionally, it could be designated as hazardous waste if it is mixed with or comes in contact with a hazardous waste. If such contact or mixing may have occurred, check 40 CFR 261 to determine whether it is a hazardous waste.
The transportation, storage, treatment and disposal of this waste material must be conducted in accordance with all applicable Federal, state and local regulations.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.

SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG

Not regulated as a dangerous good

IATA-DGR

Not regulated as a dangerous good

IMDG-Code

Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

National Regulations

49 CFR

Not regulated as a dangerous good

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Special precautions for user

Remarks : Not dangerous goods in the meaning of ADR/RID, ADN, IMDG-Code, ICAO/IATA-DGR

SECTION 15. REGULATORY INFORMATION

US State Regulations

Massachusetts Right To Know

magnesium silicate 14807-96-6
quarts 14808-60-7

Pennsylvania Right To Know

polypropene 9003-07-0
magnesium silicate 14807-96-6
poly[(1-propene)-co-ethene](0.85:0.15 w) 9010-79-1
poly[(1-propene)-co-ethene](0.902:0.098 w) 9010-79-1
Chlorite minerals 1318-59-8
poly[(1-propene)-co-ethene](0.98:0.02 w) 9010-79-1

Maine Chemicals of High Concern

quarts 14808-60-7
1,3-butadiene 106-99-0
cobalt titanium oxide 68186-85-6
silicon dioxide 7631-86-9
toluene 108-88-3

Vermont Chemicals of High Concern

lead powder [particle diameter < 1 mm] 7439-92-1
phenol 108-95-2
antimony compounds 68186-90-3
cobalt titanium oxide 68186-85-6
toluene 108-88-3
C.I. Pigment Blue 28 1345-16-0

Washington Chemicals of High Concern

phenol 108-95-2
antimony compounds 68186-90-3
cobalt titanium oxide 68186-85-6
toluene 108-88-3
C.I. Pigment Blue 28 1345-16-0

California Prop. 65

WARNING: This product can expose you to chemicals including magnesium silicate, quarts, lead powder [particle diameter < 1 mm], 1,3-butadiene, carbon black, cobalt titanium oxide, silicon dioxide, carbon black, which is/are known to the State of California to cause cancer, and methanol, lead powder [particle diameter < 1 mm], 1,3-butadiene, toluene, which is/are known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

California List of Hazardous Substances

magnesium silicate 14807-96-6

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California Permissible Exposure Limits for Chemical Contaminants

magnesium silicate 14807-96-6

California Regulated Carcinogens

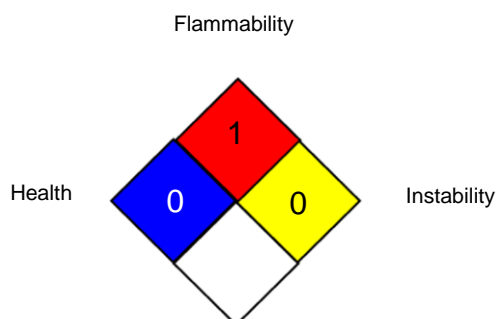
magnesium silicate 14807-96-6

quarts 14808-60-7

SECTION 16. OTHER INFORMATION

Further information

NFPA 704:



HMIS® IV:

HEALTH	*	0
FLAMMABILITY		1
PHYSICAL HAZARD		0

HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

Full text of other abbreviations

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
NIOSH REL	:	USA. NIOSH Recommended Exposure Limits
OSHA CARC	:	OSHA Specifically Regulated Chemicals/Carcinogens
OSHA P0	:	USA. Table Z-1-A Limits for Air Contaminants (1989 vacated values)
OSHA Z-1	:	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
OSHA Z-3	:	USA. Occupational Exposure Limits (OSHA) - Table Z-3 Mineral Dusts
ACGIH / TWA	:	8-hour, time-weighted average
NIOSH REL / TWA	:	Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek
OSHA CARC / PEL	:	Permissible exposure limit (PEL)
OSHA P0 / TWA	:	8-hour time weighted average
OSHA Z-1 / TWA	:	8-hour time weighted average
OSHA Z-3 / TWA	:	8-hour time weighted average

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AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Changes since the last version are highlighted in the margin. This version replaces all previous versions.

Sources of key data used to compile the Safety Data Sheet : Safety data sheets of raw material suppliers.

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Disclaimer

To the best of our knowledge, the information contained herein is accurate and reliable as of the date of publication; however we do not assume any liability whatsoever for the accuracy and completeness of such information.

Borealis makes no warranties which extend beyond the description contained herein. Nothing herein shall constitute any warranty of merchantability or fitness for a particular purpose.

It is the customer's responsibility to inspect and test our products in order to satisfy itself as to the suitability of the products for the customer's particular purpose. The customer is responsible for the appropriate, safe and legal use, processing and handling of our products.

No liability can be accepted in respect of the use of Borealis' products in conjunction with other materials. The information contained herein relates exclusively to our products when not used in conjunction with any third party materials.

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