RED 144 PEBAX

Version Number 1.0 Revision Date 08/26/2016 PolyOne.

Page 1 of 15 Print Date 08/27/2016

SAFETY DATA SHEET

RED 144 PEBAX

Section 1. Identification		
GHS product identifier	:	RED 144 PEBAX
Chemical name	:	Mixture
CAS number	:	Mixture
Other means of identification	:	CC10246999
Product type	:	solid
Relevant identified uses of the subs	tance	or mixture and uses advised against
Product use	:	Industrial applications. Plastics.
Supplier's details	:	POLYONE CORPORATION
		33587 Walker Road, Avon Lake, OH 44012
		1 (440) 930-1000 or 1 (866) POLYONE
Emergency telephone number (with hours of operation)	:	CHEMTREC 1-800-424-9300 (24hrs for spill, leak, fire, exposure or accident).

Section 2. Hazards identification

This mixture has not been evaluated as a whole. Information provided on the health effects of this product is based on individual components. All ingredients are bound and potential for hazardous exposure as shipped is minimal. However, some vapors may be released upon heating and the end-user (fabricator) must take the necessary precautions (mechanical ventilation, respiratory protection, etc.) to protect employees from exposure. After handling, always wash hands thoroughly with soap and water.

OSHA/HCS 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.
Classification of the substance or mixture	:	Not classified.
GHS label elements		
Signal word	:	No signal word.
		1/15

RED 144 PEBAX

Version Number 1.0 Revision Date 08/26/2016 <u>PolyOne</u>

Page 2 of 15 Print Date 08/27/2016

Hazard statements

No known significant effects or critical hazards.

Precautionary statements

General	:	Not applicable.
Prevention	:	Not applicable.
Response	:	Not applicable.
Storage	:	Not applicable.
Disposal	:	Not applicable.
Supplemental label elements	:	None known.
Hazards not otherwise classified	:	None known.

Section 3. Composition/information on ingredients

:

Substance/mixture	:	Mixture
Chemical name	:	Mixture
Other means of identification	:	CC10246999

CAS number/other identifiers

Ingredient name	%	CAS number
Titanium dioxide	5 - 10	13463-67-7
Adipic acid	3 - 5	124-04-9

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 or the environment and hence require reporting in this section.

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

Section 4. First aid measures

Description of necessary 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.

RED 144 PEBAX



Version Number 1.0	Page 3 of 15
Revision Date 08/26/2016	Print Date 08/27/2016

		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 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.
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.
		1 7 1

Most important symptoms/effects, acute and delayed

Potential acute health effects		
Eye contact Inhalation Skin contact Ingestion <u>Over-exposure signs/symptoms</u>	 No known significant effects or critical hazards. 	
Eye contact	: No specific data.	
Inhalation	: No specific data.	
Skin contact	: No specific data.	
Ingestion	: No specific data.	
Indication of immediate medical at	tion and special treatment needed, if necessary	
Notes to physician	: In case of inhalation of decomposition products in a fire, symptor may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.	ns
Specific treatments	No specific treatment.	
Protection of first-aiders	No action shall be taken involving any personal risk or without suitable training.	

See toxicological information (Section 11)

Section 5. Fire-fighting measures

RED 144 PEBAX

Version Number 1.0 Revision Date 08/26/2016



Page 4 of 15 Print Date 08/27/2016

Extinguishing media

Suitable extinguishing media Unsuitable extinguishing media	:	In case of fire, use water spray (fog), foam, dry chemical or CO_2 . None known.
Specific hazards arising from the chemical	:	No specific fire or explosion hazard.
Hazardous thermal decomposition products	:	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides metal oxide/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

For non-emergency personnel For emergency responders	:	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. If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
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 containme	ent a	nd cleaning up
Small spill	:	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.
Large spill	:	Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a

RED 144 PEBAX

Version Number 1.0 Revision Date 08/26/2016



Page 5 of 15 Print Date 08/27/2016

licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures Advice on general occupational hygiene	:	Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
Conditions for safe storage, including any incompatibilities	:	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.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Adipic acid	NIOSH REL (2005-09-30)
	ACGIH TLV (1994-09-01) TLV-TWA: Threshold Limit Value - Time weighted average PEL: Permissible Exposure Level 5 mg/m3
Titanium dioxide	OSHA PEL 1989 (1989-03-01) PEL: Permissible Exposure Level 10 mg/m3 Form: Total dust OSHA PEL (1993-06-30) PEL: Permissible Exposure Level 15 mg/m3 Form: Total dust NIOSH REL (1994-06-01)
	ACGIH TLV (1996-05-18) TLV-TWA: Threshold Limit Value - Time weighted average PEL:

RED 144 PEBAX

Version Number 1.0 Revision Date 08/26/2016

Page 6 of 15 Print Date 08/27/2016

<u>PolyOne</u>

		Permissible Exposure Level 10 mg/m3
Appropriate engineering controls	:	Good general ventilation should be sufficient to control worker exposure to airborne contaminants.
Environmental exposure controls	:	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.
Individual protection measures		
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.
Eye/face protection	:	Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.
Skin protection		
Hand protection	:	Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
Body protection	:	Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Other skin protection	:	Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Respiratory protection	:	Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. 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.

RED 144 PEBAX

Version Number 1.0 Revision Date 08/26/2016

<u>PolyOne</u>

Page 7 of 15 Print Date 08/27/2016

Section 9. Physical and chemical properties

Appearance

Physical state	:	solid [Pellets.]
Color	-	RED
Odor	-	Faint odor.
Odor threshold	÷.	Not available.
pH	÷.	Not available.
Melting point		Not available.
Boiling point	:	Not available.
Flash point	:	Not available.
Burning time	:	Not available.
Burning rate	:	Not available.
	:	Not available.
Evaporation rate	:	
Flammability (solid, gas)	•	Not available.
Lower and upper explosive	:	Lower: Not available.
(flammable) limits		Upper: Not available.
Vapor pressure	:	Not available.
Vapor density	:	Not available.
Relative density	:	Not available.
Solubility	:	Not available.
Solubility in water	:	insoluble in water.
Partition coefficient: n-	:	Not available.
octanol/water		
Auto-ignition temperature	:	Not available.
Decomposition temperature	:	Not available.
SADT		Not available.
Viscosity	-	Dynamic: Not available.
· Deobley	•	Kinematic: Not available.
		asinchiance i tot available.

Section 10. Stability and reactivity

Reactivity	:	No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	:	Stable under recommended storage and handling conditions (see Section 7).
Possibility of hazardous reactions	:	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	:	Keep away from extreme heat and oxidizing agents.
Incompatible materials	:	Keep away from strong acids. Oxidizer.
Hazardous decomposition	:	Under normal conditions of storage and use, hazardous decomposition
		7/15

RED 144 PEBAX

Version Number 1.0 Revision Date 08/26/2016 Page 8 of 15 Print Date 08/27/2016

ne

products

products should not be produced.

Section 11. Toxicological information

This mixture has not been evaluated as a whole for health effects. Exposure effects listed are based on existing health data for the individual components which comprise the mixture.

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Adipic acid				
	LD50 Oral	Rat	11,000 mg/kg	-
	LD50 Oral	Rat	5,050 mg/kg	-
	LD50 Dermal	Rabbit	7,940 mg/kg	-
Titanium dioxide	•			·
	LC50 Inhalation	Rat - Male	6.82 Mg/l	4 h
	LD50 Dermal	Rabbit	> 5,000 mg/kg	-
Conclusion/Summary	• Mixtı	re Not fully tested	•	

Conclusion/Summary

Mixture.Not fully tested.

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Adipic acid	Eyes -	Rabbit		24 hrs	-
	Moderate				
	irritant				
	Skin - Mild	Rabbit			-
	irritant				
	Eyes - Mild	Rabbit			-
	irritant				
Titanium dioxide	Skin - Mild	Human		72 hrs	-
	irritant				
Conclusion/Summary					
Skin	: N	lixture.Not fu	lly tested.		
Eyes	: N	lixture.Not fu	lly tested.		
Respiratory	: N	lixture.Not fu	lly tested.		
Sensitization					
Conclusion/Summary					
Skin	: N	lixture.Not fu	lly tested.		
Respiratory	: N	lixture.Not fu	lly tested.		

<u>PolyOne</u>

RED 144 PEBAX

Version Number 1.0	Page 9 of 15
Revision Date 08/26/2016	Print Date 08/27/2016

Mutagenicity				
Conclusion/Summary	:	Mixture.Not ful	ly tested.	
Carcinogenicity				
Conclusion/Summary <u>Classification</u>	:	Mixture.Not ful	ly tested.	
Product/ingredient name	OSHA	IARC	NTP	
Titanium dioxide		2B		
<u>Reproductive toxicity</u>				
Conclusion/Summary	:	Mixture.Not ful	ly tested.	
<u>Teratogenicity</u>				
Conclusion/Summary	:	Mixture.Not ful	ly tested.	
Specific target organ toxicity Not available.	<u>(single expo</u>	<u>sure)</u>		
Specific target organ toxicity Not available.	(repeated ex	posure)		
Aspiration hazard Not available.				
Information on the likely rou exposure	tes of :	Not available.		
Potential acute health effects				
Eye contact Inhalation			ficant effects or critical hazards. ficant effects or critical hazards.	
Skin contact			ficant effects or critical hazards.	
Ingestion	:	No known signi	ficant effects or critical hazards.	
Symptoms related to the phys	sical, chemica	and toxicolog	ical characteristics	
Eye contact	:	No specific data		
Inhalation		No specific data		
Skin contact	:	No specific data		
Ingestion	:	No specific data		

RED 144 PEBAX

Version Number 1.0 Revision Date 08/26/2016 Page 10 of 15 Print Date 08/27/2016

P<u>olyOne</u>

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects Potential delayed effects	:	Not available. Not available.
Long term exposure		
Potential immediate effects Potential delayed effects Potential chronic health effects	:	Not available. Not available.
Conclusion/Summary	:	Mixture.Not fully tested.
General Carcinogenicity Mutagenicity Teratogenicity Developmental effects Fertility effects	: : : : : :	No known significant effects or critical hazards. No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Section 12. Ecological information

Toxicity

Result	Species	Exposure
Acute LC50 97,000 µg/l Fresh	Fish - Fish	96 h
water		
		·
Acute LC50 > 1,000,000 μg/l	Fish - Fish	96 h
Marine water		
Acute LC50 > 1,000 mg/l Fresh	Fish - Fish	96 h
water		
	Acute LC50 97,000 μg/l Fresh waterAcute LC50 > 1,000,000 μg/l Marine waterAcute LC50 > 1,000 mg/l Fresh	Acute LC50 97,000 μ g/l Fresh waterFish - FishAcute LC50 > 1,000,000 μ g/l Marine waterFish - FishAcute LC50 > 1,000 mg/l FreshFish - Fish



RED 144 PEBAX

Version Number 1.0 Revision Date 08/26/2016 Page 11 of 15 Print Date 08/27/2016

	Acute LC50 13 mg/l Fresh water	Aquatic invertebrates.	48 h
	Acute LC30 13 high Fresh water	Daphnia	48 11
	Acute LC50 6.5 mg/l Fresh water	Aquatic invertebrates. Daphnia	48 h
	Acute LC50 3 mg/l Fresh water	Aquatic invertebrates. Crustaceans	48 h
	Acute LC50 15.9 mg/l Fresh water	Aquatic invertebrates. Crustaceans	48 h
	Acute LC50 3.6 mg/l Fresh water	Aquatic invertebrates. Crustaceans	48 h
	Acute LC50 11 mg/l Fresh water	Aquatic invertebrates. Crustaceans	48 h
	Acute LC50 13.4 mg/l Fresh water	Aquatic invertebrates. Crustaceans	48 h
	Acute EC50 27.8 mg/l Fresh water	Aquatic invertebrates. Daphnia	48 h
	Acute EC50 19.3 mg/l Fresh water	Aquatic invertebrates. Daphnia	48 h
	Acute EC50 35.306 mg/l Fresh water	Aquatic invertebrates. Daphnia	48 h
RED 144 PEBAX			
Remarks - Acute - Aquatic invertebrates.:	Chemicals are not readily available	as they are bound within the	e polymer matrix.
Conclusion/Summary	: Chemicals are not readily available as they are bound within the polymer matrix.		
Persistence and degradability	<u>v</u>		
Conclusion/Summary	: Chemicals are not read polymer matrix.	ily available as they are bou	nd within the
Conclusion/Summary	: Chemicals are not readily available as they are bound within the polymer matrix.		

Bioaccumulative potential

F			
Product/ingredient name	LogPow	BCF	Potential
Adipic acid	0.093	3.16	low
Titanium dioxide		352.00	low

<u>Mobility in soil</u>

Soil/water partition coefficient	:	Not available.
(KOC)		
Other adverse effects	:	No known significant effects or critical hazards.

RED 144 PEBAX

Version Number 1.0 Revision Date 08/26/2016



Page 12 of 15 Print Date 08/27/2016

Section 13. Disposal considerations

Disposal methods

: The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. 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.

United States - RCRA Acute hazardous waste "P" List: Not listed

United States - RCRA Toxic hazardous waste "U" List: Not listed

Section 14. Transport information

U.S. DOT Classification	:	Not regulated for transportation.
ICAO/IATA	:	Not classified as dangerous good under transport regulations.
IMO/IMDG (maritime)	:	Not classified as dangerous good under transport regulations.

Section 15. Regulatory information

U.S. Federal regulations	:	United States - TSCA 12(b) - Chemical export notification: None
		of the components are listed.
		United States - TSCA 4(a) - Final Test Rules: Not listed
		United States - TSCA 4(a) - ITC Priority list: Not listed
		United States - TSCA 4(a) - Proposed test rules: Not listed
		United States - TSCA 4(f) - Priority risk review: Not listed
		United States - TSCA 5(a)2 - Final significant new use rules: Not
		listed
		United States - TSCA 5(a)2 - Proposed significant new use rules:
		Not listed
		United States - TSCA 5(e) - Substances consent order: Not listed
		United States - TSCA 6 - Final risk management: Not listed
		United States - TSCA 6 - Proposed risk management: Not listed

RED 144 PEBAX



Version Number 1.0 Revision Date 08/26/2016	Page 13 of 15 Print Date 08/27/2016
	United States - TSCA 8(a) - Chemical risk rules: Not listed United States - TSCA 8(a) - Dioxin/Furane precusor: Not listed United States - TSCA 8(a) - Chemical Data Reporting (CDR): Not determined United States - TSCA 8(a) - Preliminary assessment report
	(PAIR): Listed Quinacridone (C.I. Pigment Violet 19) United States - TSCA 8(c) - Significant adverse reaction (SAR): Not listed
	United States - TSCA 8(d) - Health and safety studies: Not listed United States - EPA Clean water act (CWA) section 307 - Priority pollutants: Not listed United States - EPA Clean water act (CWA) section 311 -
	Hazardous substances: Listed United States - EPA Clean air act (CAA) section 112 - Accidental release prevention - Flammable substances: Not listed United States - EPA Clean air act (CAA) section 112 - Accidental release prevention - Toxic substances: Not listed United States - Department of commerce - Precursor chemical: Not listed

Clean Air Act Section 112(b)	:	Not listed
Hazardous Air Pollutants (HAPs)		
Clean Air Act Section 602 Class I	:	Not listed
Substances		
Clean Air Act Section 602 Class II	:	Not listed
Substances		
DEA List I Chemicals (Precursor	:	Not listed
Chemicals)		
DEA List II Chemicals (Essential	:	Not listed
Chemicals)		

US. EPA CERCLA Hazardous Substances (40 CFR 302)

not applicable

SARA 311/312

Classification

: Not applicable.

Composition/information on ingredients

Name	%	Classification
Adipic acid	3 - 5	AH

SARA 313

RED 144 PEBAX

Version Number 1.0 Revision Date 08/26/2016 Page 14 of 15 Print Date 08/27/2016

<u>vOne</u>

Not applicable.

~		
<u>State regulations</u> Massachusetts	:	The following components are listed: Adipic acid Titanium dioxide Iron oxide
New York	:	The following components are listed: Adipic acid
New Jersey	:	The following components are listed: Adipic acid Titanium dioxide Iron oxide
Pennsylvania	:	The following components are listed: Adipic acid
		Titanium dioxide
		Iron oxide
<u>California Prop. 65</u> WARNING: This product contains a c	hemi	cal known to the State of California to cause cancer.
United States inventory (TSCA 8b)	:	All components are listed or exempted.
Canada inventory	:	All components are listed or exempted.
International regulations		
International lists	:	 Australia inventory (AICS): All components are listed or exempted. Taiwan inventory (CSNN): All components are listed or exempted. Malaysia Inventory (EHS Register): Not determined. EINECS: All components are listed or exempted. Japan inventory: Not determined. China inventory (IECSC): All components are listed or exempted. Korea inventory: All components are listed or exempted. New Zealand Inventory of Chemicals (NZIoC): All components are listed or exempted. Philippines inventory (PICCS): Not determined.
		NT-(1)-(-1

Chemical Weapons Convention	:	Not listed
List Schedule I Chemicals		
Chemical Weapons Convention	:	Not listed
List Schedule II Chemicals		
Chemical Weapons Convention	:	Not listed
List Schedule III Chemicals		

RED 144 PEBAX

Version Number 1.0 Revision Date 08/26/2016



Page 15 of 15 Print Date 08/27/2016

Section 16. Other information

History

HIStor ,		
Date of printing	:	08/27/2016
Date of issue/Date of revision	:	08/26/2016
Date of previous issue	:	08/26/2016
Version	:	1.0
Key to abbreviations	:	ATE = Acute Toxicity Estimate BCF = Bioconcentration Factor GHS = Globally Harmonized System of Classification and Labelling of Chemicals IATA = International Air Transport Association IBC = Internediate Bulk Container IMDG = International Maritime Dangerous Goods LogPow = logarithm of the octanol/water partition coefficient MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
References	:	UN = United Nations Not available.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the abovenamed supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist. Particularly this information may not be valid for such material used in conjunction with any other materials or in any process, unless specified in the text.