## MATERIAL SAFETY DATA SHEET

## TRANSL. GREEN #4

Version Number 1.0 Revision Date 08/29/2007 Page 1 of 6 Print Date 11/30/2011

#### 1. PRODUCT AND COMPANY IDENTIFICATION

#### POLYONE CORPORATION 33587 Walker Road, Avon Lake, OH 44012

Product Stewardship (770) 271-5902 CHEMTREC 1-800-424-9300 (24hrs for spill, leak, fire, exposure or accident).
TRANSL. GREEN #4
CC10103654
Mixture
Mixture
Industrial Applications

#### 2. COMPOSITION/INFORMATION ON REGULATED INGREDIENTS

Components	CAS-No.	Weight %
Titanium dioxide	13463-67-7	0.1 - 1

#### **3. HAZARDS IDENTIFICATION**

#### **EMERGENCY OVERVIEW**

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.

#### POTENTIAL HEALTH EFFECTS

Routes of Exposure:	: Inhalation, Ingestion, Skin contact
Acute exposure	
Inhalation Ingestion Eyes	<ul> <li>Resin particles, like other inert materials, can be mechanically irritating.</li> <li>May be harmful if swallowed.</li> <li>Resin particles, like other inert materials, are mechanically irritating to</li> </ul>
Skin	eyes. : Experience shows no unusual dermatitis hazard from routine handling.
Chronic exposure	: Refer to Section 11 for Toxicological Information.
Medical Conditions Aggravated by Exposure:	: None known.



# MATERIAL SAFETY DATA SHEET **TRANSL. GREEN #4**

Version Number 1.0 Revision Date 08/29/2007 Page 2 of 6 Print Date 11/30/2011

	4. FIRST AID MEASURES
Inhalation	: Move to fresh air in case of accidental inhalation of fumes from overheating or combustion. When symptoms persist or in all cases o doubt seek medical advice.
Ingestion	: Do not induce vomiting without medical advice. When symptoms persist or in all cases of doubt seek medical advice.
Eyes	: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If eye irritation persists, seek medical attention.
Skin	: Wash off with soap and plenty of water. If skin irritation persists see medical attention.
	5. FIRE-FIGHTING MEASURES
Flash point	: Not applicable
Flammable Limits Upper explosion limit Lower explosion limit Autoignition temperature Suitable extinguishing media	<ul> <li>Not applicable</li> <li>Not applicable</li> <li>Not applicable</li> <li>Carbon dioxide blanket, Water spray, Dry powder, Foam.</li> </ul>
Special Fire Fighting Procedures	: Fullface self-contained breathing apparatus (SCBA) used in positive pressure mode should be worn to prevent inhalation of airborne contaminants.
Unusual Fire/Explosion Hazards	: Carbon dioxide (CO2), carbon monoxide (CO), oxides of nitrogen (NOx), other hazardous materials, and smoke are all possible.
	6. ACCIDENTAL RELEASE MEASURES
Personal precautions	: Wear appropriate personal protection during cleanup, such as impervious gloves, boots and coveralls.
Environmental precautions	: Should not be released into the environment. The product should not be allowed to enter drains, water courses or the soil.
Methods for cleaning up	: Clean up promptly by sweeping or vacuum. Package all material in plastic, cardboard or metal containers for disposal. Refer to Section 1 of this MSDS for proper disposal methods.
	7. HANDLING AND STORAGE
Handling	: Take measures to prevent the build up of electrostatic charge. Heat only in areas with appropriate exhaust ventilation.
Storage	: Keep containers dry and tightly closed to avoid moisture absorption

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## MATERIAL SAFETY DATA SHEET TRANSL. GREEN #4

Version Number 1.0 Revision Date 08/29/2007 Page 3 of 6 Print Date 11/30/2011

10 mg/m3Time Weighted Average (TWA):as TiMX OEL	8. E	XPOSURE	<b>CONTROLS / PERSON</b>	AL PROTECTION	
Hand protection       : Protective gloves         Skin and body protection       : Long sleeved clothing         Additional Protective       : Safety shoes         Measures       : Safety shoes         General Hygiene       : Handle in accordance with good industrial hygiene and safety practic         Considerations       :: Heat only in areas with appropriate exhaust ventilation. Provide appropriate exhaust ventilation at machinery.         Engineering measures       :: Heat only in areas with appropriate exhaust ventilation. Provide appropriate exhaust ventilation at machinery.         Exposure limit(s)       : Maue       Exposure time       Exposure type       List:         Titanium dioxide       10 mg/m3       Time Weighted Average (TWA):       OSHA Z:         15 mg/m3       PEL:       Total dust.       OSHA Z:         10 mg/m3       Time Weighted Average (STEL):       MX OEL         OHEYSICAL AND CHEMICAL PROPERTIES         Porm         Solid       Evaporation rate       : Not applicable         Appearance       : pellets       Specific Gravity       : Not applicable         Appearance       : pellets       Specific Gravity       : Not applicable         Additional       : Not determined       Vapour density       : Not applicable         Bol	Respiratory protection	: N	o personal respiratory pro	tective equipment norm	ally required.
Skin and body protection       : Long sleeved clothing         Additional Protective       : Safety shoes         Measures       : Handle in accordance with good industrial hygiene and safety practic         General Hygiene       : Handle in accordance with good industrial hygiene and safety practic         Considerations       : Heat only in areas with appropriate exhaust ventilation. Provide appropriate exhaust ventilation at machinery.         Engineering measures       : Heat only in areas with appropriate exhaust ventilation. Provide appropriate exhaust ventilation at machinery.         Exposure limit(s)       : Total dust.       OSHAZ         Components       Value       Exposure time       Exposure type       List:         Titanium dioxide       10 mg/m3       Time Weighted Average       as Ti       MX OEL         10 mg/m3       Short Term Exposure Limit       as Ti       MX OEL         (TWA):       : as Ti       MX OEL         20 mg/m3       Short Term Exposure Limit       as Ti       MX OEL         Godur       : Very faint       Vapour pressure       Not applicable         Appearance       : pellets       Specific Gravity       : Not applicable         Odour       : Very faint       Vapour density       : Not applicable         Melting point/range       : Not determined       Vapo	Eye/Face Protection	: S	afety glasses with side-shi	elds	
Additional Protective Measures       : Safety shoes         General Hygiene Considerations       : Handle in accordance with good industrial hygiene and safety practice Wash hands before breaks and at the end of workday.         Engineering measures       : Heat only in areas with appropriate exhaust ventilation. Provide appropriate exhaust ventilation at machinery.         Exposure limit(s)       : Heat only in areas with appropriate exhaust ventilation. Provide appropriate exhaust ventilation at machinery.         Exposure limit(s)       : Total dust. OSHA Z.         Image: the exhaust ventilation at machinery.       : Exposure time image: the exhaust ventilation at machinery.         Exposure limit(s)       : Total dust. OSHA Z.         Image: the exhaust ventilation at machinery.       : Image: the exhaust ventilation at machinery.         Exposure limit(s)       : Total dust. OSHA Z.         Image: the exhaust ventilation at machinery.       : Image: the exhaust ventilation at machinery.         Image: the exhaust ventilation at machinery.       : Image: the exhaust ventilation at machinery.         Exposure limit(s)       : Image: the exhaust ventilation at machinery.         Image: the exhaust ventilation at machinery.       : Image: the exhaust ventilation at machinery.         Exposure limit(s)       : Image: the exhaust ventilation at machinery.         Image: the exhaust ventilation at machinery.       : Image: the exhaust ventilation at machinery. <t< td=""><td>Hand protection</td><td>: P</td><td>rotective gloves</td><td></td><td></td></t<>	Hand protection	: P	rotective gloves		
Measures       General Hygiene       : Handle in accordance with good industrial hygiene and safety practic Wash hands before breaks and at the end of workday.         Engineering measures       : Heat only in areas with appropriate exhaust ventilation. Provide appropriate exhaust ventilation at machinery.         Exposure limit(s)       : Heat only in areas with appropriate exhaust ventilation. Provide appropriate exhaust ventilation at machinery.         Exposure limit(s)       : Made Exposure time       Exposure type       List:         Titanium dioxide       10 mg/m3       Time Weighted Average       ACGIH         (TWA):       : Otal dust.       OSHA Z:         10 mg/m3       Time Weighted Average       as Ti       MX OEL         20 mg/m3       Short Term Exposure Limit       as Ti       MX OEL         Short Term Exposure Limit       as Ti       MX OEL         Quar       : Solid       Evaporation rate       : Not applicable         Appearance       : pellets       Specific Gravity       : Not determined         Color       : GREEN       Bulk density       : Not applicable         Boiling Point:       : Not applicable       pH       : Not applicable         Metting point/range       : Not determined       Vapour density       : Not applicable         Boiling Point:       : Not applicable	Skin and body protection	: L	ong sleeved clothing		
Considerations       Wash hands before breaks and at the end of workday.         Engineering measures       : Heat only in areas with appropriate exhaust ventilation. Provide appropriate exhaust ventilation at machinery.         Exposure limit(s) <ul> <li>Components</li> <li>Value</li> <li>Exposure time</li> <li>Exposure type</li> <li>List:</li> <li>Titanium dioxide</li> <li>10 mg/m3</li> <li>Time Weighted Average</li> <li>ACGIH</li> <li>(TWA):</li> <li>ACGI</li> <li>10 mg/m3</li> <li>Time Weighted Average</li> <li>as Ti</li> <li>MX OEL</li> <li>(TWA):</li> <li>as Ti</li> <li>MX OEL</li> <li>(STEL):</li> </ul> <li> <ul> <li>PHYSICAL AND CHEMICAL PROPERTIES</li> </ul> </li> <li> <li>Form</li></li>		: S	afety shoes		
appropriate exhaust ventilation at machinery.         Exposure limit(s)         Components       Value       Exposure time       Exposure type       List:         Titanium dioxide       10 mg/m3       Time Weighted Average       ACGIH         (TWA):       15 mg/m3       PEL:       Total dust.       OSHA Z         10 mg/m3       Time Weighted Average       as Ti       MX OEL         (TWA):       10 mg/m3       Short Term Exposure Limit       as Ti       MX OEL         20 mg/m3       Short Term Exposure Limit       as Ti       MX OEL         Solid       Evaporation rate       :       Not applicable         Appearance       :       pellets       Specific Gravity       :       Not established         Odour       :       GREEN       Bulk density       :       Not established         Odour       :       Very faint       Vapour pressure       :       Not applicable         Boiling Point:       :       Not applicable       pH       :       Not applicable         Builty       :       Insoluble       :       Not applicable       pH       :       Not applicable         Boiling Point:       :       Not applicable       pH <t< td=""><td></td><td></td><td></td><td></td><td></td></t<>					
Components         Value         Exposure time         Exposure type         List:           Titanium dioxide         10 mg/m3         Time Weighted Average (TWA):         ACGIH           15 mg/m3         PEL:         Total dust.         OSHA Z.           10 mg/m3         Time Weighted Average (TWA):         as Ti         MX OEL (TWA):           20 mg/m3         Short Term Exposure Limit (STEL):         as Ti         MX OEL           9. PHYSICAL AND CHEMICAL PROPERTIES           Form         :         Solid         Evaporation rate         :         Not applicable           Appearance         :         pellets         Specific Gravity         :         Not determined           Color         :         GREEN         Bulk density         :         Not applicable           Melting point/range         :         Not determined         Vapour pressure         :         Not applicable           Boiling Point:         :         Not applicable         pH         :         Not applicable           Boiling Point:         :         Not applicable         pH         :         Not applicable           Boiling Point:         :         Insoluble         Insoluble         :         Not applicable           Boility	Engineering measures				tion. Provide
Titanium dioxide       10 mg/m3       Time Weighted Average (TWA):       ACGIH         15 mg/m3       PEL:       Total dust.       OSHA Z:         10 mg/m3       Time Weighted Average (TWA):       as Ti       MX OEL         20 mg/m3       Short Term Exposure Limit (STEL):       as Ti       MX OEL         9. PHYSICAL AND CHEMICAL PROPERTIES         Form       :       Solid       Evaporation rate       :       Not applicable         Appearance       :       pellets       Specific Gravity       :       Not determined         Odour       :       GREEN       Bulk density       :       Not applicable         Melting point/range       :       Not determined       Vapour pressure       :       Not applicable         Boiling Point:       :       Not applicable       pH       :       Not applicable         Bulk density       :       Insoluble       :       Not applicable         Boiling Point:       :       Not applicable       pH       :       Not applicable         Bulk       :       :       Stable.       :       Stable.       :       :       Will not occur.	Exposure limit(s)				
Image: Constraint of the second state of the second sta	<u> </u>	Value	*	· · · ·	e List:
10 mg/m3       Time Weighted Average (TWA):       as Ti       MX OEL         20 mg/m3       Short Term Exposure Limit (STEL):       as Ti       MX OEL         9. PHYSICAL AND CHEMICAL PROPERTIES         Form : Solid Evaporation rate : Not applicable         Appearance       : pellets       Specific Gravity       : Not determined         Color       : GREEN       Bulk density       : Not established         Odour       : Very faint       Vapour pressure       : Not applicable         Melting point/range       : Not applicable       pH       : Not applicable         Boiling Point:       : Not applicable       pH       : Not applicable         IO. STABILITY AND REACTIVITY         Stability       : Stable.       Hazardous Polymerization       : Will not occur.	Titanium dioxide	•		je	ACGIH
Image: constraint of the constraint					OSHA Z1
(STEL):         9. PHYSICAL AND CHEMICAL PROPERTIES         Form       :       Solid       Evaporation rate       :       Not applicable         Appearance       :       pellets       Specific Gravity       :       Not determined         Color       :       GREEN       Bulk density       :       Not established         Odour       :       Very faint       Vapour pressure       :       Not applicable         Melting point/range       :       Not determined       Vapour density       :       Not applicable         Boiling Point:       :       Not applicable       pH       :       Not applicable         Water solubility       :       Insoluble       :       Not applicable         Hot stable.         Hazardous Polymerization       :       Will not occur.		10 mg/m3	(TWA):		MX OEL
Form       : Solid       Evaporation rate       : Not applicable         Appearance       : pellets       Specific Gravity       : Not determined         Color       : GREEN       Bulk density       : Not established         Odour       : Very faint       Vapour pressure       : Not applicable         Melting point/range       : Not determined       Vapour density       : Not applicable         Boiling Point:       : Not applicable       pH       : Not applicable         Water solubility       : Insoluble       Insoluble       Insoluble         Id. STABILITY AND REACTIVITY         Stability       : Stable.         Hazardous Polymerization       : Will not occur.		20 mg/m3	-	nit as Ti	MX OEL
Form       : Solid       Evaporation rate       : Not applicable         Appearance       : pellets       Specific Gravity       : Not determined         Color       : GREEN       Bulk density       : Not established         Odour       : Very faint       Vapour pressure       : Not applicable         Melting point/range       : Not determined       Vapour density       : Not applicable         Boiling Point:       : Not applicable       pH       : Not applicable         Water solubility       : Insoluble       Insoluble       Insoluble         Stability         Hazardous Polymerization       : Will not occur.		9. PHYSIC	CAL AND CHEMICAL	PROPERTIES	
Appearance:pelletsSpecific Gravity:Not determinedColor:GREENBulk density:Not establishedOdour:Very faintVapour pressure:Not applicableMelting point/range:Not determinedVapour density:Not applicableBoiling Point::Not applicablepH:Not applicableWater solubility:InsolubleInsoluble		///			
Color       : GREEN       Bulk density       : Not established         Odour       : Very faint       Vapour pressure       : Not applicable         Melting point/range       : Not determined       Vapour density       : Not applicable         Boiling Point:       : Not applicable       pH       : Not applicable         Water solubility       : Insoluble       : Not applicable       : Not applicable         Stability       : Stable.       : Stable.       : Will not occur.	Form			-	
Odour       : Very faint       Vapour pressure       : Not applicable         Melting point/range       : Not determined       Vapour density       : Not applicable         Boiling Point:       : Not applicable       pH       : Not applicable         Water solubility       : Insoluble       Insoluble       : Not applicable         Stability       : Stable.       : Stable.       : Will not occur.					
Melting point/range       : Not determined       Vapour density       : Not applicable         Boiling Point:       : Not applicable       pH       : Not applicable         Water solubility       : Insoluble       Insoluble       Insoluble         Stability         :       Stable.         Hazardous Polymerization       : Will not occur.					
Boiling Point:       : Not applicable       pH       : Not applicable         Water solubility       : Insoluble       : Insoluble         10. STABILITY AND REACTIVITY         Stability       : Stable.         Hazardous Polymerization       : Will not occur.					
Water solubility       : Insoluble         Insoluble         IO. STABILITY AND REACTIVITY         Stability       : Stable.         Hazardous Polymerization       : Will not occur.					
Stability:Stable.Hazardous Polymerization:Will not occur.					
Hazardous Polymerization : Will not occur.		10. 8	STABILITY AND REAC	TIVITY	
	Stability	: S	table.		
Conditions to avoid : Keep away from oxidizing agents and open flame. To avoid therma	Hazardous Polymerization	1 : W	Vill not occur.		
	Conditions to avoid	: K	eep away from oxidizing	agents and open flame.	To avoid thermal

#### MATERIAL SAFETY DATA SHEET TRANSL. GREEN #4

Version Number 1.0 Revision Date 08/29/2007 Page 4 of 6 Print Date 11/30/2011

Incompatible Materials:Incompatible with strong acids and oxidizing agents.Hazardous decomposition<br/>products:Carbon dioxide (CO2), carbon monoxide (CO), oxides of nitrogen<br/>(NOx), other hazardous materials, and smoke are all possible.

decomposition, do not overheat.

#### 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.

Toxicity Overview

This product contains the following components which in their pure form have the following characteristics:

CAS-No.	Chemical Name	Effect	Target Organ
13463-67-7	Titanium dioxide	Systemic effects	Respiratory system.

Carcinogenicity

This product contains the following components which, in their pure form, have the following carcinogenicity data:

CAS-No.	Chemical Name	OSHA	IARC	NTP
13463-67-7	Titanium dioxide	no	2B	no

IARC Carcinogen Classifications:

1 - The component is carcinogenic to humans.

2A - The component is probably carcinogenic to humans.

2B - The component is possibly carcinogenic to humans.

NTP Carcinogen Classifications:

1 - The component is known to be a human carcinogen.

2 - The component is reasonably anticipated to be a human carcinogen.

#### **12. ECOLOGICAL INFORMATION**

Persistence and degradability	Not readily biodegradable.	
Environmental Toxicity	Chemicals are not readily available as they are bound within the polymer matrix.	
Bioaccumulation Potential	Chemicals are not readily available as they are bound within the polymer matrix.	
Additional advice	No data available	
	3. DISPOSAL CONSIDERATIONS	
Product	Like most thermoplastic plastics the product can be recycled. Wh possible recycling is preferred to disposal or incineration. The	iere

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# MATERIAL SAFETY DATA SHEET **TRANSL. GREEN #4**

rsion Number 1.0 vision Date 08/29/2007		Page 5 of 6 Print Date 11/30/2011
		generator of waste material has the responsibility for proper waste classification, transportation and disposal in accordance with applicable federal, state/provincial and local regulations.
Contaminated packaging	:	Recycling is preferred when possible. The generator of waste material has the responsibility for proper waste classification, transportation and disposal in accordance with applicable federal, state/provincial and local regulations.
	1	4. TRANSPORT INFORMATION
U.S. DOT Classification	:	Not regulated for transportation.
ICAO/IATA (air)	:	Refer to specific regulation.
IMO / IMDG (maritime)	:	Refer to specific regulation.
	15	S. REGULATORY INFORMATION
US Regulations:		
OSHA Status	:	Classified as hazardous based on components.
TSCA Status	:	All components of this product are listed on or exempt from the TSCA Inventory.
US. EPA CERCLA Hazardous	s Sub	stances (40 CFR 302)
Not applicable		
California Proposition 65	:	Not applicable
SARA Title III Section 302 Ex	xtrem	ely Hazardous Substance
Unless specific chemicals are	identi	fied under this section, this product is Not Applicable under this regulation
SARA Title III Section 313 To	oxic C	Chemicals:
Unless specific chemicals are	identi	fied under this section, this product is Not Applicable under this regulation
Canadian Regulations:		

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## MATERIAL SAFETY DATA SHEET TRANSL. GREEN #4

Version Number 1.0 Revision Date 08/29/2007 Page 6 of 6 Print Date 11/30/2011

National Pollutant Release	National Pollutant Release Inventory (NPRI)		
Not applicable			
WHMIS Classification	:	D2A	
DSL	:	All components of this product are on the Canadian Domestic Substances List (DSL) or are exempt.	
National Inventories:			
Australia AICS	:	Listed	
China IECS	:	Listed	
Europe EINECS	:	Listed	
Japan ENCS	:	Not determined	
Korea KECI	:	Listed	
Philippines PICCS	:	Listed	
		16. OTHER INFORMATION	

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.