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FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 600.00

Revision Date: March 25, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

o-Phosphoric Acid

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **DANGER**

Pictograms



SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Acute toxicity, oral (Category 4). Harmful if swallowed (H302). Do not eat, drink or smoke when using this product (P270).

Hazard class: Skin corrosion or irritation (Category 1). Causes severe skin burns and eye damage (H314).

Hazard class: Acute toxicity, inhalation (Category 1). Fatal if inhaled (H330).

Industrial exposure to phosphoric acid vapors and mists is listed as a known human carcinogen by IARC (IARC-1).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
o-Phosphoric acid	7664-38-2	H ₃ PO ₄	98.00	
Synonym: Orthophosphoric acid				

SECTION 4 — FIRST AID MEASURES

Immediately call a POISON CENTER or physician (P310).

If inhaled: Remove victim to fresh air in a position comfortable for breathing (P304+P340).

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing (P305+P351+P338). **If on skin:** Immediately remove all contaminated clothing. Rinse skin with water (P303+P361+P353). Wash contaminated clothing before reuse (P363).

If swallowed: Rinse mouth. Do NOT induce vomiting (P301+P330+P331).

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable liquid.

When heated to decomposition, may emit toxic fumes.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA CODE

H-3

F-0

R-0

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Remove all ignition sources and ventilate area. Contain spill with sand or other inert absorbent material, neutralize with sodium bicarbonate or calcium hydroxide and deposit in sealed bag or container. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Inorganic #9. Store with acids, except nitric acid.
Store in a dedicated acid cabinet and away from any source of water; if an acid cabinet is not available, store in Flinn Saf-Cube™.

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection (P280). Wash hands thoroughly after handling (P264).
Exposure guidelines: PEL/TLV 1 mg/m³ (OSHA/ACGIH)

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Colorless viscous liquid. Odorless.
Soluble: Water and alcohol

Boiling point: ~135 °C
pH: <1 (1% solution)
Specific gravity: 1.58
Vapor pressure: 2.2 mmHg

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with strong oxidizers, reducers, bases, and metals. Forms a detonable mixture with nitromethane.
Shelf life: Good, if stored properly.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Harmful liquid, corrosive
Chronic effects: respiratory tract irritation
Target organs: N.A.

ORL-RAT LD₅₀: 1530 mg/kg
IHL-RAT LC₅₀: N.A.
SKN-RBT LD₅₀: 2740 mg/kg

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Harmful to aquatic life at low concentrations. Toxicity is primarily associated with pH.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.
Flinn Suggested Disposal Method #24b is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Phosphoric Acid. Hazard class: 8, Corrosive. UN number: UN1805.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (231-633-2), RCRA code D002.

SECTION 16 — OTHER INFORMATION

This Safety Data Sheet (SDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific, Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. The data should not be confused with local, state, federal or insurance mandates, regulations, or requirements and CONSTITUTE NO WARRANTY. Any use of this data and information must be determined by the science instructor to be in accordance with applicable local, state or federal laws and regulations. The conditions or methods of handling, storage, use and disposal of the product(s) described are beyond the control of Flinn Scientific, Inc. and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT(S).

Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: March 25, 2014

SECTION I - MATERIAL SAFETY DATA SHEET

PLASTI-KOTE CO., INC.

1000 LAKE ROAD
 MEDINA, OHIO 44028
 1-330-725-4511
 1-800-255-3924 24 Hour Emergency Only

DATE PREPARED: 06/14/01

PRODUCT CLASS: AIRBORNE SPRAY PAINT

SHIPPING NAME: CONSUMER COMMODITY

ORM-D INTL. UN NO.: 1850

NE = NONE ESTABLISHED

NA = NONE AVAILABLE

HAZARD RATING

4 = SEVERE
 3 = SERIOUS
 2 = MODERATE
 1 = SLIGHT
 0 = MINIMAL

HMIS

HEALTH 1
 FLAMMABILITY 4
 REACTIVITY 0
 PERSONAL PROTECTION E

NFPA

HEALTH 2
 FLAMMABILITY 4
 REACTIVITY 0
 OTHER -

SECTION II - HAZARDOUS INGREDIENTS

PRODUCT NAME:						PRODUCT#	PRODUCT#	PRODUCT#	PRODUCT#	PRODUCT#
						101-S, 101-SF, 102-S	METALLIC	CHROME	DECORATOR	FLO.
ODDS 'N' ENDS SPRAY						102-SF, 103-S, 104-S	109-S	150-S	144-S, 145-S, 146-S	140-S
						105-S, 106-S, 107-S	110-S		147-S, 148-S, 149-S	141-S
						108-S, 111-S, 112-S	136-S		151-S, 152-S, 153-S	142-S
						113-S, 115-S, 116-S	139-S		154-S, 155-S, 156-S	
						117-S, 119-S, 120-S	143-S		157-S, 158-S, 159-S	
						124-S, 134-S, 135-S			160-S, 161-S	
INGREDIENT	CAS NUMBER	ACGIH TWA PPM	OSHA PEL PPM	OTHER TLV PPM	VAPOR PRESSURE mmHg at 20 C	% (w)	% (w)	% (w)	% (w)	% (w)
ACETONE	67-64-1	700	1000	-	100	20-25	20-25	15-20	20-25	
ALIPHATIC HYDROCARBON	64742-89-8	NE	NE	300	38	20-25	30-35	5-10	20-25	35-40
V.M.S.P. Naphtha	66410-97-9	NE	NE	-	-	15-20			15-20	
* N-BUTYL ALCOHOL	71-36-3	50	100	-	4.2		0-5			
* CYCLOHEXANE	110-82-7	300	300	-	78			30-35		
ISOPROPYL ALCOHOL	67-63-0	400	400	-	33		5-10			
MINERAL SPIRITS	64742-48-9	NE	NE	100	2.0	5-10	0-5	0-5	5-10	5-10
* TOLUENE	108-88-3	100	100	-	22			5-10		
* XYLENE	1330-20-7	100	100	-	5.1	0-5			0-5	0-5
CARBON BLACK	1333-86-4	-	(1)*	(1)*	-	0-1			0-1	
TITANIUM DIOXIDE	13463-95-4	-	(2)*	(2)*	-	0-10			0-10	
PROPANE-ISOBUTANE MIXTURE	68478-96-8	NE	1000	-	-	30	30	25	20	20

(1) 3.5 MGCUM DUST - (2) 10 MGCUM DUST

* THIS CHEMICAL IS SUBJECT TO THE REPORTING REQUIREMENTS OF SECTION 313 OF SARA TITLE III.

SECTION III - PHYSICAL DATA

BOILING RANGE:	133° - 331° F	VAPOR DENSITY:	<input checked="" type="checkbox"/> Heavier <input type="checkbox"/> Lighter than air
MELTING POINT:	Estimated min. 1000° F	WEIGHT PER GALLON:	6.5 - 7.2 (PAINT)
VAPOR PRESSURE:	Unknown for products	SPECIFIC GRAVITY:	(H ₂ O = 1): < 1
SOLUBILITY IN WATER:	Slight to moderate	EVAPORATION RATE:	<input type="checkbox"/> Faster <input checked="" type="checkbox"/> Slower than other
APPEARANCE AND ODOR:	Typical solvent paint		(Butyl Acetate = 1) Section 1 products > 1
PERCENT VOLATILE BY VOLUME:	90-90	Propellants > 1	(Propellant tester)
See Section II for volatile, hazardous components.		VOG: g/l	690 705 730 895 890

Continue on page 2

STANDARD		SECTION IV - FIRE AND EXPLOSION HAZARD DATA	
FLAMMABILITY CLASSIFICATION: (EXTREMELY FLAMMABLE)	OSHA: 1A UNIFORM FIRE CODE: LEVEL 3 AEROSOL	FLASH POINT: 0° F (-18° C) TCC (Propellant = -100° F)	
EXTINGUISHING MEDIA:	ALCOHOL, FOAM, CO2, DRY CHEMICAL	LEL 1.0	
UNUSUAL FIRE AND EXPLOSION HAZARDS:	Closed containers may explode and/or autoignite when exposed to extreme heat, vapors are heavier than air and may travel along the ground or may be moved by ventilation and ignited by pilot lights, other flames, sparks, heaters, smoking, electric motors or other locations distant from material handling point.		
SPECIAL FIRE FIGHTING PROCEDURES:	Water spray may be ineffective. Water may be used to cool closed containers to prevent pressure build and possible autoignition or explosion when exposed to extreme heat. If water is used, fog nozzles are preferable use self-contained breathing apparatus with full face piece operated in pressure demand or other positive pressure mode.		
SECTION V - HEALTH HAZARD DATA			
ROUTE(S) OF ENTRY:	<input checked="" type="checkbox"/> INHALATION	<input checked="" type="checkbox"/> SKIN	<input type="checkbox"/> INGESTION <input checked="" type="checkbox"/> EYES
CARCINOGENICITY:	<input type="checkbox"/> NTP	<input checked="" type="checkbox"/> IARC	<input type="checkbox"/> OSHA
Contains ethylbenzene as a component of xylene and/or mineral spirits. Ethylbenzene is classified by IARC as possibly carcinogenic to humans based on animal data; however there is inadequate evidence for cancer in exposed humans.			
SYMPTOMS OF OVEREXPOSURE:			
ACUTE:	BREATHING:	Excessive inhalation of vapors can cause nasal and respiratory irritation, dizziness, weakness, fatigue, nausea, headache, possible unconsciousness and even asphyxiation.	
	EYE CONTACT:	Can cause severe irritation, redness, tearing, blurred vision.	
	SWALLOWING:	Can cause gastrointestinal irritation, nausea, vomiting, diarrhea.	
	SKIN CONTACT:	Can cause irritation. Prolonged contact can cause dryness and cracking of skin.	
CHRONIC:	None known for product(s) in Section 1.		
Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage, severe overexposure in laboratory animals has also caused liver abnormalities and damage to kidneys, lungs, and spleen, heart and adrenals. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal.			
MEDICAL CONDITIONS:	Generally Aggravated By Exposure - Can cause respiratory and/or skin reaction.		
FIRST AID-EMERGENCY PROCEDURES:			
1. IF INHALED - Remove individual to fresh air. If breathing is difficult, administer oxygen. If breathing is stopped, give artificial respiration and seek medical help.			
2. IF IN EYES - Flush with water for 15 minutes while holding eyelids open. Get prompt medical attention.			
3. IF SWALLOWED - Do NOT induce vomiting (aspiration of material into lungs can cause pneumonia, which can be fatal). Keep person warm, quiet and get medical attention / Poison Control Center.			
4. IF ON SKIN - Wash with soap and water or various hand cleansers, and wash clothing.			
SECTION VI - REACTIVITY DATA			
STABILITY:	<input type="checkbox"/> UNSTABLE <input checked="" type="checkbox"/> STABLE	HAZARDOUS POLYMERIZATION:	<input type="checkbox"/> MAY OCCUR <input checked="" type="checkbox"/> WILL NOT OCCUR
CONDITIONS TO AVOID:	Heat, sparks and open flame.		
INCOMPATIBILITY (materials to avoid):	Avoid contact with strong oxidizing agents and heat.		
HAZARDOUS DECOMPOSITION:	May form toxic materials, carbon dioxide / carbon monoxide, various hydrocarbons, nitrogen compounds, etc., when burned.		
CONDITIONS TO AVOID:	Not applicable.		
SECTION VII - SPILL OR LEAK PROCEDURES			
STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Eliminate all ignition sources, ventilate area, absorb liquid on paper, vermiculite, floor absorbent, or other absorbent material and transfer to a closed container.			
WASTE DISPOSAL METHOD: Material collected on absorbent material may be deposited in a pooled toxic substance landfill in accordance with local, state, and federal regulations.			
PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Do not puncture or incinerate. Do not store in areas above 120°F (40°C) or in direct sunlight, or near heat or open flames.			
STORAGE CATEGORY: Store large quantities in building protected for storage of flammable liquids.			
SECTION VIII - SPECIAL PROTECTION INFORMATION			
RESPIRATORY PROTECTION: For casual/occasional use - to avoid breathing vapors or spray mist, open windows and doors or use other means to ensure fresh air entry during application and drying. If you experience eye watering, headaches, or dizziness, increase fresh air, wear respiratory protection (NIOSH/MSHA approved), or leave the area.			
VENTILATION: For regular/continuous use - provide sufficient mechanical (general) and/or local exhaust ventilation to maintain exposure below TLV's in Section 2.			
PROTECTIVE GLOVES: Wear chemical resistant gloves, such as neoprene, if skin contact is to be avoided.			
EYE PROTECTION: Chemical splash goggles, in compliance with OSHA regulations, are advised.			
OTHER EQUIPMENT: Where special or unusual conditions exist, seek the expert assistance of an industrial hygienist.			
WORK/HYGIENE PRACTICES: Wash hands before eating or using washroom. As with all chemicals, minimize personal contact.			
The data on this sheet represent typical values. Since application variables are a major factor in product performance, this information should serve only as a general guide. Valpar assumes no obligation or liability for use of this information. UNLESS VALPAR AGREES OTHERWISE IN WRITING, VALPAR MAKES NO WARRANTIES, EXPRESS OR IMPLIED, AND DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR FREEDOM FROM PATENT INFRINGEMENT. VALPAR WILL NOT BE LIABLE FOR ANY SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES. Your only remedy for any defect in this product is the replacement of the defective product, or a refund of its purchase price, at our option. This MSDS contains additional information required by the state of Pennsylvania. 803			



SAFETY DATA SHEET

SECTION 1: IDENTIFICATION

PRODUCT NAME: ODOR SORB

USE : Odor neutralization

SUPPLIER'S NAME & ADDRESS :

WEST PENETONE INC.
11411 160 STREET
EDMONTON, AB T5M 3T7

EMERGENCY TELEPHONE NUMBERS : WEST PENETONE : (780) 454-3919
CANUTEC : (613) 996-6666

SECTION 2: HAZARDS IDENTIFICATION

Irritant to eyes and skin. May be harmful if swallowed.

SECTION 3: COMPOSITION AND INFORMATION ON INGREDIENTS

	<u>%</u>	<u>CAS #:</u>	<u>ACGIH TLV (TWA):</u>	<u>LD50 OF MATERIAL</u>	<u>LC50 OF MATERIAL</u>
1,2-Propylene Glycol	1-5	57-55-6	None	Rat-oral 20,000mg/kg	Not available
Poly(oxy-1,2-ethanediyl), .alpha-.phenyl-.omega-. hydroxy-	1-5	9004-78-8	Not available	Rat-oral 5600mg/kg	Not available
Tetrasodium iminodisuccinate	1-5	144538-83- 0	None	Rat-oral >2000mg/kg	Not available

SECTION 4: FIRST AID MEASURES

EYE CONTACT: Flush with plenty of water for 15 minutes. Contact physician if irritation persists or develops.

SKIN CONTACT: Wash with soap and water. Consult physician if irritation develops or persists.

INHALATION: Not applicable

INGESTION: Do not induce vomiting. Drink plenty of water and contact physician immediately.

SECTION 5: FIRE FIGHTING MEASURES

MEANS OF EXTINCTION: Not applicable

HAZARDOUS COMBUSTION PRODUCTS: Decomposition products may include oxides of carbon.

SPECIAL PRECAUTIONS FOR FIREFIGHTERS: Not applicable

SECTION 6: ACCIDENTAL RELEASE MEASURES

SPILL CONTROL MEASURES:

For small spills, dilute with water and mop up or absorb with an inert dry materials and place in an appropriate waste disposal container. For large spills, do not allow product to enter drains. Contain and collect spillage with absorbent material and proceed as above.

SECTION 7: HANDLING AND STORAGE

STORAGE AND HANDLING PROCEDURES :

Keep container closed when not in use. Keep from freezing.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION**EXPOSURE LIMITS:**

See Section 3

PERSONAL PROTECTION :

Splash proof goggles. Chemical-resistant gloves.

ENGINEERING CONTROLS :

No special measures required.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**APPEARANCE :**

Colorless to light amber liquid

ODOR

Odorless

ODOR THRESHOLD :

Not applicable

pH :

10.5

FREEZING POINT :

Approx. 0°C

BOILING POINT :

Approx. 100°C

FLASH POINT :

None

EVAPORATION RATE, acetone = 1 :

Not available

FLAMMABILITY (SOLID, GAS):

Not applicable

VAPOR PRESSURE, KPa AT 20°C :

Not available

VAPOR DENSITY (Air = 1) :

Not available

SPECIFIC GRAVITY AT 20°C:

1.025

SOLUBILITY IN WATER :

Complete

COEFFICIENT OF WATER/OIL DISTRIBUTION :

Not available

AUTO IGNITION TEMPERATURE :

Not available

DECOMPOSITION TEMPERATURE:

Not available

VISCOSITY:

Not available

FLAMMABLE LIMITS :**UPPER:** Not available **LOWER :** Not available**SECTION 10: STABILITY AND REACTIVITY****CONDITIONS OF STABILITY :**

Product is stable

INCOMPATIBLE MATERIALS AND CONDITIONS TO AVOID :

Oxidizing materials, bases or acids

REACTIVITY :

Not reactive under normal conditions

HAZARDOUS DECOMPOSITION PRODUCTS :

Oxides of carbon

POSSIBILITY OF HAZARDOUS REACTIONS:

None

SECTION 11: TOXICOLOGICAL INFORMATION**ROUTE OF ENTRY:**

Skin and eye contact (acute)

Ingestion

ACUTE HEALTH EFFECTS:

Irritant to skin and eyes. May be harmful if swallowed.

EFFECTS OF CHRONIC EXPOSURE:

None known

EXPOSURE LIMITS AND TOXICITY:

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICITY: No known significant effects or critical hazards.

PERSISTENCE AND DEGRADABILITY: COD – 293000 mg/L

BIOACCUMULATIVE POTENTIAL: Not available

MOBILITY IN SOIL: Not available

OTHER ADVERSE EFFECTS: No known significant effects or critical hazards.

SECTION 13: DISPOSAL CONSIDERATIONS**WASTE DISPOSAL :**

Consult local and / or provincial authorities

SECTION 14: TRANSPORT INFORMATION

T.D.G. classification: Not regulated

SECTION 15: REGULATORY INFORMATION

WHMIS classification: D2B

DSL compliant

SECTION 16: OTHER INFORMATION

PREPARED BY : GREG CEBULIAK
TECH. SERVICES REPRESENTATIVE
PHONE NO : (780) 454-3919

DATE : September 22, 2014
VERSION: 1
SUPERCEDES: Not applicable

THE INFORMATION PRESENTED HEREIN HAS BEEN COMPILED FROM SOURCES CONSIDERED TO BE DEPENDABLE AND ACCURATE TO THE BEST OF WEST PENETONE'S KNOWLEDGE. THE INFORMATION RELATES TO THIS SPECIFIC MATERIAL. IT MAY NOT BE VALID FOR THIS MATERIAL IF USED IN COMBINATION WITH ANY OTHER MATERIALS OR IN ANY PROCESS. IT IS THE USER'S RESPONSIBILITY TO SATISFY ONESELF AS TO THE SUITABILITY AND COMPLETENESS OF THIS INFORMATION FOR HIS OWN PARTICULAR USE.

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 566.00

Revision Date: February 6, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Orange IV

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word N/A

Pictograms

SECTION 2 — HAZARDS IDENTIFICATION

This chemical is considered nonhazardous according to GHS classifications for the Hazard Communication Standard. Treat all laboratory chemicals with caution.

Although this material is considered to be nonhazardous, unpredictable reactions among chemicals are always possible. Prudent laboratory practices should be observed.

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Orange IV, sodium salt	554-73-4	C ₁₈ H ₁₄ N ₃ NaO ₃ S	375.38	
Synonyms: Acid orange 5; Tropaeolin OO ; C.I. 13080				

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell.

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing.

If on skin: Wash with plenty of water.

If swallowed: Rinse mouth. Call a POISON CENTER or physician if you feel unwell.

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable solid.

When heated to decomposition, may emit toxic fumes.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA Code
None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Wipe up the spill, place in a sealed bag or container, and dispose. Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Organic #9. Store with dyes, indicators and stains.
Keep container tightly closed. Store in a cool, dry place.

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection. Wash hands thoroughly after handling. Will stain skin, clothing, and surfaces.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Orange-yellow scales or powder. Odorless.
Soluble: Water and alcohol

Biological stain.
pH indicator: 1.4 red to 2.8 yellow.

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with strong oxidizers and high temperatures.
Shelf life: Indefinite, if stored properly.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: N.A.
Chronic effects: N.A.
Target organs: N.A.

ORL-RAT LD₅₀: N.A.
IHL-RAT LC₅₀: N.A.
SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.
Flinn Suggested Disposal Method #26a is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Not regulated. Hazard class: N/A. UN number: N/A.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

Not listed.

SECTION 16 — OTHER INFORMATION

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Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: February 6, 2014



Safety Data Sheet - Original Gorilla Glue

Date Revised: 01/4/2019
Date Issued: 05/21/2015

Version: 1.5

FOR CHEMICAL EMERGENCY:

During Business Hours: (800) 966-3458 | Outside Business Hours: (800) 420-7186

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 1: IDENTIFICATION

Product Identifier

Product Name: Original Gorilla Glue

Synonyms: Polyurethane Adhesive

Intended Use of the Product

Consumer Adhesives for building, carpentry, or hobby projects.

Name, Address, and Telephone of the Responsible Party

Company

The Gorilla Glue Company
2101 E. Kemper Road
Cincinnati, Ohio 45241
513-271-3300

www.gorillatough.com

Emergency Telephone Number

Emergency number : 1-800-420-7186 (Prosar)

SECTION 2: HAZARDS IDENTIFICATION

Classification of the Substance or Mixture

Classification (GHS-US)

Acute Tox. 4 (Inhalation:dust,mist) H332
Skin Irrit. 2 H315
Eye Irrit. 2B H320
Resp. Sens. 1 H334
Skin Sens. 1 H317
STOT SE 3 H335
STOT RE 1 H372

Full text of H-phrases: see section 16

Label Elements

GHS-US Labeling

Hazard Pictograms (GHS-US)



Signal Word (GHS-US)

: Danger

Hazard Statements (GHS-US)

: H315 - Causes skin irritation.
H317 - May cause an allergic skin reaction.
H320 - Causes eye irritation.
H332 - Harmful if inhaled.
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335 - May cause respiratory irritation.
H372 - Causes damage to organs through prolonged or repeated exposure.

Precautionary Statements (GHS-US)

: P260 - Do not breathe vapors, mist, or spray.
P264 - Wash hands, forearms, and other exposed areas thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P271 - Use only outdoors or in a well-ventilated area.
P272 - Contaminated work clothing must not be allowed out of the workplace.
P280 - Wear protective gloves, protective clothing, and eye protection.
P284 - [In case of inadequate ventilation] wear respiratory protection.



Safety Data Sheet - Original Gorilla Glue

Date Revised: 01/4/2019
Date Issued: 05/21/2015

Version: 1.5

FOR CHEMICAL EMERGENCY:

During Business Hours: (800) 966-3458 | Outside Business Hours: (800) 420-7186

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

P302+P352 - If on skin: Wash with plenty of water.
P304+P340 - If inhaled: Remove person to fresh air and keep at rest in a position comfortable for breathing.
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312 - Call a poison center or doctor if you feel unwell.
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
P337+P313 - If eye irritation persists: Get medical advice/attention.
P342+P311 - If experiencing respiratory symptoms: Call a poison center or doctor.
P362+P364 - Take off contaminated clothing and wash it before reuse.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P405 - Store locked up.
P501 - Dispose of contents/container in accordance with local, regional, national, territorial, provincial, and international regulations.

Other Hazards

Other Hazards: May cause gastro-intestinal blockage if swallowed. Seek medical advice immediately. Contains isocyanates. May produce an allergic reaction.

Unknown Acute Toxicity (GHS-US) Not available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

Name	Product Identifier	% (w/w)	Classification (GHS-US)
Polyisocyanate Prepolymer based on MDI	(CAS No) 67815-87-6	40 - 70	Acute Tox. 4 (Inhalation:dust,mist), H332 Skin Irrit. 2, H315 Eye Irrit. 2B, H320 Resp. Sens. 1, H334 Skin Sens. 1, H317 STOT SE 3, H335 STOT RE 1, H372
Polymeric Diphenylmethane Diisocyanate (pMDI)	(CAS No) 9016-87-9	10 - 30	Acute Tox. 4 (Inhalation:dust,mist), H332 Skin Irrit. 2, H315 Eye Irrit. 2B, H320 Resp. Sens. 1, H334 Skin Sens. 1, H317 STOT SE 3, H335 STOT RE 1, H372
4,4'-Diphenylmethane diisocyanate	(CAS No) 101-68-8	15 - 25	Acute Tox. 4 (Inhalation:dust,mist), H332 Skin Irrit. 2, H315 Eye Irrit. 2B, H320 Resp. Sens. 1, H334 Skin Sens. 1, H317 STOT SE 3, H335 STOT RE 2, H373
Diphenylmethane Diisocyanate (MDI) Mixed Isomers	(CAS No) 26447-40-5	1 - 5	Acute Tox. 4 (Inhalation:dust,mist), H332 Skin Irrit. 2, H315 Eye Irrit. 2B, H320 Resp. Sens. 1, H334 Skin Sens. 1, H317 STOT SE 3, H335



Safety Data Sheet - Original Gorilla Glue

Date Revised: 01/4/2019
Date Issued: 05/21/2015

Version: 1.5

FOR CHEMICAL EMERGENCY:

During Business Hours: (800) 966-3458 | Outside Business Hours: (800) 420-7186

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Additive	(CAS No) Trade Secret	<0.5	STOT RE 1, H372 Acute Tox. 4 (Dermal), H312 Skin Irrit. 2, H315 Eye Irrit. 2B, H320 Skin Sens. 1, H317 STOT SE 3, H335
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Full text of H-phrases: see section 16

SECTION 4: FIRST AID MEASURES

Description of First Aid Measures

General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label if possible).

Inhalation: Using proper respiratory protection, immediately move the exposed person to fresh air. Seek medical attention immediately.

Skin Contact: Remove contaminated clothing. Gently wash with plenty of soap and water followed by rinsing with water for at least 15 minutes. Call a POISON CENTER or doctor/physician if you feel unwell. Wash contaminated clothing before reuse.

Eye Contact: Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention.

Ingestion: Rinse mouth. Do not induce vomiting. Immediately call a POISON CENTER or doctor/physician.

Most Important Symptoms and Effects Both Acute and Delayed

General: Irritation to eyes, skin and respiratory tract. Exposure may produce an allergic reaction. Inhalation may cause allergic respiratory reaction with asthma-like symptoms and difficulty breathing.

Inhalation: May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause respiratory irritation.

Skin Contact: Causes skin irritation. Exposure may produce an allergic reaction.

Eye Contact: Causes eye irritation.

Ingestion: Ingestion is likely to be harmful or have adverse effects. May cause gastro-intestinal blockage if swallowed.

Chronic Symptoms: May cause damage to organs through prolonged or repeated exposure.

Indication of Any Immediate Medical Attention and Special Treatment Needed

If medical advice is needed, have product container or label at hand.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media: Carbon dioxide, dry powder, and foam. In cases of large scale fires, alcohol-resistant foams are preferred. If water is used, it should be used in very large quantities. The reaction between water and isocyanate may be vigorous.

Unsuitable Extinguishing Media: Do not use a heavy water stream. Use of heavy stream of water may spread fire.

Special Hazards Arising From the Substance or Mixture

Fire Hazard: Not flammable.

Explosion Hazard: Product is not explosive.

Reactivity: Exothermic reaction with amines and alcohols; reacts with water forming heat, CO₂, and insoluble polyurea. The combined effect of CO₂ and heat can produce enough pressure to rupture a closed container.

Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire.

Firefighting Instructions: Do not allow run-off from fire fighting to enter drains or water courses.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

Hazardous Combustion Products: Fire will produce dense black smoke. Carbon oxides (CO, CO₂). Nitrogen compounds.



Safety Data Sheet - Original Gorilla Glue

Date Revised: 01/4/2019

Date Issued: 05/21/2015

Version: 1.5

FOR CHEMICAL EMERGENCY:

During Business Hours: (800) 966-3458 | Outside Business Hours: (800) 420-7186

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Reference to Other Sections

Refer to section 9 for flammability properties.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Do not get in eyes, on skin, or on clothing.

For Non-Emergency Personnel

Protective Equipment: Use appropriate personal protection equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel.

For Emergency Personnel

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Upon arrival at the scene, a first responder is expected to recognize the presence of dangerous goods, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit.

Environmental Precautions

Prevent entry to sewers and public waters.

Methods and Material for Containment and Cleaning Up

For Containment: Absorb and/or contain spill with inert material, then place in suitable container.

Methods for Cleaning Up: Remove mechanically; cover remainders with wet absorbent material (e. g. sand, earth, sawdust). After approx. 15 min. transfer to waste container and do not seal (evolution of CO₂). Keep damp in a safe ventilated area for several days. Clean up spills immediately and dispose of waste safely.

Reference to Other Sections

See heading 8, Exposure Controls and Personal Protection. Concerning disposal elimination after cleaning, see item 13.

SECTION 7: HANDLING AND STORAGE

Precautions for Safe Handling

Additional Hazards When Processed: Do not breathe vapors, mists, or dusts. Use adequate ventilation to keep airborne isocyanate levels below the exposure limits. Wear respiratory protection if material is heated, sprayed, used in a confined space, or if the exposure limit is exceeded. Warning properties (irritation of the eyes, nose and throat or odor are not adequate to prevent overexposure from inhalation. This material can produce asthmatic sensitization upon either single inhalation exposure to a relatively high concentration or upon repeated inhalation exposures to lower concentrations. Individuals with lung or breathing problems or prior allergic reactions to isocyanates must not be exposed to vapor or spray mist. Avoid contact with skin and eyes. Wear appropriate eye and skin protection. Wash thoroughly after handling. Do not breathe smoke and gases created by overheating or burning this material. Decomposition products can be highly toxic and irritating.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work.

Conditions for Safe Storage, Including Any Incompatibilities

Storage Conditions: Store in a dry, cool and well-ventilated place. Store away from incompatible materials. Keep product away from sources of alcohols, amines, or other materials that react with isocyanates. Keep out of reach of children and animals. Store in tightly closed containers to prevent moisture contamination. Do not reseal if contamination is suspected.

Incompatible Materials: Strong acids, strong bases, strong oxidizers. Amines. Alcohols. Copper and its alloys. Water.

Storage Temperature: 18 - 30 °C (64.4 - 86 °F)

Specific End Use(s)

Consumer Adhesives for building, carpentry, or hobby projects.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

For substances listed in section 3 that are not listed here, there are no established Exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), NIOSH (REL), OSHA (PEL), Canadian provincial governments, or the Mexican government.



Safety Data Sheet - Original Gorilla Glue

Date Revised: 01/4/2019
Date Issued: 05/21/2015

Version: 1.5

FOR CHEMICAL EMERGENCY:

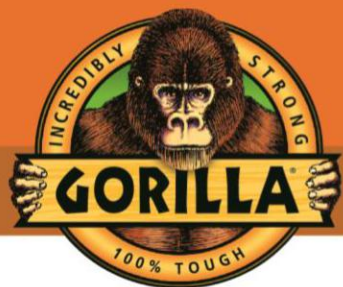
During Business Hours: (800) 966-3458 | Outside Business Hours: (800) 420-7186

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Polymeric Diphenylmethane Diisocyanate (pMDI) (9016-87-9)		
Alberta	OEL TWA (mg/m ³)	0.07 mg/m ³
Alberta	OEL TWA (ppm)	0.005 ppm
4,4'-Methylenediphenyl diisocyanate (101-68-8)		
USA ACGIH	ACGIH TWA (ppm)	0.005 ppm
USA OSHA	OSHA PEL (Ceiling) (mg/m ³)	0.2 mg/m ³
USA OSHA	OSHA PEL (Ceiling) (ppm)	0.02 ppm
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	0.05 mg/m ³
USA NIOSH	NIOSH REL (TWA) (ppm)	0.005 ppm
USA NIOSH	NIOSH REL (ceiling) (mg/m ³)	0.2 mg/m ³
USA NIOSH	NIOSH REL (ceiling) (ppm)	0.020 ppm
USA IDLH	US IDLH (mg/m ³)	75 mg/m ³
Alberta	OEL TWA (mg/m ³)	0.05 mg/m ³
Alberta	OEL TWA (ppm)	0.005 ppm
British Columbia	OEL Ceiling (ppm)	0.01 ppm
British Columbia	OEL TWA (ppm)	0.005 ppm
Manitoba	OEL TWA (ppm)	0.005 ppm
New Brunswick	OEL TWA (mg/m ³)	0.051 mg/m ³
New Brunswick	OEL TWA (ppm)	0.005 ppm
Newfoundland & Labrador	OEL TWA (ppm)	0.005 ppm
Nova Scotia	OEL TWA (ppm)	0.005 ppm
Ontario	OEL Ceiling (ppm)	0.02 ppm (designated substances regulation)
Ontario	OEL TWA (ppm)	0.005 ppm (designated substances regulation) 0.005 ppm (applies to workplaces to which the designated substances regulation does not apply)
Prince Edward Island	OEL TWA (ppm)	0.005 ppm
Québec	VEMP (mg/m ³)	0.051 mg/m ³
Québec	VEMP (ppm)	0.005 ppm
Saskatchewan	OEL STEL (ppm)	0.015 ppm
Saskatchewan	OEL TWA (ppm)	0.005 ppm
Yukon	OEL Ceiling (mg/m ³)	0.2 mg/m ³
Yukon	OEL Ceiling (ppm)	0.02 ppm
Diphenylmethane Diisocyanate (MDI) Mixed Isomers (26447-40-5)		
Mexico	OEL TWA (mg/m ³)	0.2 mg/m ³ 0.051 mg/m ³
Mexico	OEL TWA (ppm)	0.02 ppm 0.005 ppm
USA OSHA	OSHA PEL (Ceiling) (mg/m ³)	0.2 mg/m ³
USA OSHA	OSHA PEL (Ceiling) (ppm)	0.02 ppm
Nunavut	OEL Ceiling (mg/m ³)	0.2 mg/m ³
Nunavut	OEL Ceiling (ppm)	0.02 ppm
Northwest Territories	OEL Ceiling (mg/m ³)	0.2 mg/m ³
Northwest Territories	OEL Ceiling (ppm)	0.02 ppm

Exposure Controls

Appropriate Engineering Controls: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Provide sufficient ventilation to keep vapors below permissible exposure limit. Ensure all national/local regulations are observed.



Safety Data Sheet - Original Gorilla Glue

Date Revised: 01/4/2019

Date Issued: 05/21/2015

Version: 1.5

FOR CHEMICAL EMERGENCY:

During Business Hours: (800) 966-3458 | Outside Business Hours: (800) 420-7186

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Personal Protective Equipment: Protective clothing. Safety glasses. Gloves. Insufficient ventilation: wear respiratory protection.



Materials for Protective Clothing: Chemically resistant materials and fabrics.

Hand Protection: Wear chemically resistant protective gloves.

Eye Protection: Chemical goggles or safety glasses.

Skin and Body Protection: Wear suitable protective clothing.

Respiratory Protection: Use a NIOSH-approved respirator or self-contained breathing apparatus whenever exposure may exceed established Occupational Exposure Limits.

Other Information: When using, do not eat, drink or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on Basic Physical and Chemical Properties

Physical State	: Liquid
Appearance	: Brown
Odor	: Earthy, musty
Odor Threshold	: Not available
pH	: Not available
Evaporation Rate	: Not available
Melting Point	: 0 °C (Calculated) (32 °F)
Freezing Point	: Not available
Boiling Point	: 208 °C (406.4 °F)
Flash Point	: > 205 °C (> 401 °F) (Pensky-Martens Closed Cup (ASTM D-93))
Auto-ignition Temperature	: Not available
Decomposition Temperature	: Polymerizes at about 200 °C with evolution of CO ₂
Flammability (solid, gas)	: Not available
Lower Flammable Limit	: Not available
Upper Flammable Limit	: Not available
Vapor Pressure	: < 0.0001 mm Hg @ 25 °C (77 °F)
Relative Vapor Density at 20 °C	: Not available
Relative Density	: Not available
Density	: 1.138 g/cm ³ @ 20 °C (68 °F)
Specific Gravity	: 1.137 @ 25 °C (77 °F)
Solubility	: Insoluble in water.
Partition Coefficient: N-Octanol/Water	: Not available
Viscosity	: Not available
Explosion Data – Sensitivity to Mechanical Impact	: Not expected to present an explosion hazard due to mechanical impact.
Explosion Data – Sensitivity to Static Discharge	: Not expected to present an explosion hazard due to static discharge.

SECTION 10: STABILITY AND REACTIVITY

Reactivity: Exothermic reaction with amines and alcohols; reacts with water forming heat, CO₂, and insoluble polyurea. The combined effect of CO₂ and heat can produce enough pressure to rupture a closed container.

Chemical Stability: Stable under recommended handling and storage conditions (see section 7).

Possibility of Hazardous Reactions: Contact with moisture, other materials that react with isocyanates, or temperatures above 350°F (177°C) may cause polymerization.



Safety Data Sheet - Original Gorilla Glue

Date Revised: 01/4/2019
Date Issued: 05/21/2015

Version: 1.5

FOR CHEMICAL EMERGENCY:

During Business Hours: (800) 966-3458 | Outside Business Hours: (800) 420-7186

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Conditions to Avoid: Direct sunlight. Extremely high or low temperatures.

Incompatible Materials: Strong acids, strong bases, strong oxidizers. Alcohols. Copper and its alloys. Amines. Water.

Hazardous Decomposition Products: Carbon oxides (CO, CO₂). Nitrogen compounds. Isocyanates. Fire will produce dense black smoke.

SECTION 11: TOXICOLOGICAL INFORMATION

Information on Toxicological Effects - Product

Acute Toxicity: Based on polymeric MDI

LD50 and LC50 Data:

Polymeric MDI	
LD50 Oral Rat	> 2000 mg/kg
LD50 Dermal Rabbit	> 9400 mg/kg (OECD Test Guideline 402)
LC50 Inhalation Rat	0.49 mg/l/4h
ATE US (vapors)	0.49 mg/l/4h
ATE US (dust, mist)	0.49 mg/l/4h
Additional information	Toxicity data based on polymeric MDI (a mixture of monomers and higher molecular weight oligomers). For inhalation, the test atmosphere generated in the animal study is not representative of workplace environments, how the substance is placed on the market, and how it can reasonably be expected to be used. Therefore the test result cannot be directly applied for the purpose of assessing hazard. Based on expert judgment and the weight of evidence, a modified classification for acute inhalation toxicity is justified

Skin Corrosion/Irritation: Causes skin irritation. (Rabbit, slightly irritating)

Serious Eye Damage/Irritation: Causes eye irritation.

Respiratory or Skin Sensitization: May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.

Germ Cell Mutagenicity: Not classified (Genetic Toxicity in Vitro: Bacterial - gene mutation assay: negative (Salmonella typhimurium, Metabolic Activation: with/without))

Teratogenicity: Rat, female, inhalation, gestation days 6-15, 6 hrs/day, NOAEL (teratogenicity): 12 mg/m³, NOAEL (maternal) 4 mg/m³. No teratogenic effects observed at doses tested. Fetotoxicity seen only with maternal toxicity.

Carcinogenicity: Not classified

Specific Target Organ Toxicity (Repeated Exposure): Causes damage to organs through prolonged or repeated exposure.

Reproductive Toxicity: Not classified

Specific Target Organ Toxicity (Single Exposure): May cause respiratory irritation.

Aspiration Hazard: Not classified

Symptoms/Injuries After Inhalation: May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause respiratory irritation.

Symptoms/Injuries After Skin Contact: Causes skin irritation. Exposure may produce an allergic reaction.

Symptoms/Injuries After Eye Contact: Causes eye irritation.

Symptoms/Injuries After Ingestion: Ingestion is likely to be harmful or have adverse effects. May cause gastro-intestinal blockage if swallowed.

Chronic Symptoms: May cause damage to organs through prolonged or repeated exposure.

Polymeric MDI	
NOAEL (inhalation, rat, dust/mist/fume, 90 days)	1 mg/m ³ (6hrs/day 5 days/week) Irritation to lungs and nasal cavity.
NOAEL (inhalation, rat, dust/mist/fume, 2 years)	0.2 (6 hrs/day 5 days/week). Irritation to lungs and nasal cavity

Information on Toxicological Effects - Ingredient(s)

LD50 and LC50 Data:



Safety Data Sheet - Original Gorilla Glue

Date Revised: 01/4/2019
Date Issued: 05/21/2015

Version: 1.5

FOR CHEMICAL EMERGENCY:

During Business Hours: (800) 966-3458 | Outside Business Hours: (800) 420-7186

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Polyisocyanate Prepolymer based on MDI (67815-87-6)	
Same as Original Gorilla Glue. See above.	
Polymeric Diphenylmethane Diisocyanate (pMDI) (9016-87-9)	
Same as Original Gorilla Glue. See above.	
4,4'-Diphenylmethane diisocyanate (101-68-8)	
LD50 Oral Rat	7616 mg/kg
LD50 Dermal Rabbit	> 9400 mg/kg
LC50 Inhalation Rat	0.368 mg/l/4h
Additional information	For inhalation, the test atmosphere generated in the animal study is not representative of workplace environments, how the substance is placed on the market, and how it can reasonably be expected to be used. Therefore the test result cannot be directly applied for the purpose of assessing hazard. Based on expert judgment and the weight of evidence, a modified classification for acute inhalation toxicity is justified
Diphenylmethane Diisocyanate (MDI) Mixed Isomers (26447-40-5)	
Same as Original Gorilla Glue. See above.	
Additive (Trade Secret)	
LD50 Oral Rat	2200 mg/kg
LD50 Dermal Rabbit	1410 mg/kg
Polymeric Diphenylmethane Diisocyanate (pMDI) (9016-87-9)	
IARC Group	3
Polymeric Diphenylmethane Diisocyanate (pMDI) (9016-87-9)	
IARC Group	3
Diphenylmethane Diisocyanate (MDI) Mixed Isomers (26447-40-5)	
IARC Group	3

SECTION 12: ECOLOGICAL INFORMATION

Toxicity

Ecology - General: Ecotoxicity data based on polymeric MDI (a mixture of monomers and higher molecular weight oligomers).

Toxicity to Fish	
LC0 (Canio rerio (zebra fish))	> 1000 mg/l, 96 h
LC0 (Oryzias latipes (Orange-red killfish))	> 3000 mg/l, 96 h
Toxicity to Aquatic Invertebrates	
EC50 (Water flea (daphnia magna))	> 1000 mg/l, 24 h
Toxicity to Aquatic Plants	
NOEC	1640 mg/l, End Point: growth (Green algae (Scenedesmus subspicatus), 72 h)
Toxicity to Microorganisms	
EC50 (activated sludge)	> 100 mg/l, 3 h
4,4'-Diphenylmethane diisocyanate (101-68-8)	
Toxicity to Fish	
LC50 (Zebra fish (Brachydanio rerio))	> 500 mg/l, 24 h
Toxicity to Aquatic Invertebrates	
EC50 (Water flea (daphnia magna))	> 500 mg/l, 24 h



Safety Data Sheet - Original Gorilla Glue

Date Revised: 01/4/2019
Date Issued: 05/21/2015

Version: 1.5

FOR CHEMICAL EMERGENCY:

During Business Hours: (800) 966-3458 | Outside Business Hours: (800) 420-7186

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Additive	
Toxicity to Fish	
LC50 (Fathead minnow (<i>Pimephales promelas</i>))	134 mg/l, 96 h

Persistence and Degradability

Polymeric MDI	
Persistence and Degradability	Biodegradation for this product was 0%, exposure time: 28 days, i.e. not degradable.
Biodegradation	0 % after 28 days

Bioaccumulative Potential

Polymeric MDI	
BCF fish 1	< 1 <i>Oncorhynchus mykiss</i> (rainbow trout), Exposure time: 112 d (does not bioaccumulate)

Mobility in Soil Not available

Other Adverse Effects

Other Information: Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

Sewage Disposal Recommendations: Do not dispose of waste into sewer.

Waste Disposal Recommendations: Dispose of waste material in accordance with all local, regional, national, provincial, territorial and international regulations.

SECTION 14: TRANSPORT INFORMATION

In Accordance with DOT	Not regulated for transport
In Accordance with IMDG	Not regulated for transport
In Accordance with IATA	Not regulated for transport
In Accordance with TDG	Not regulated for transport

SECTION 15: REGULATORY INFORMATION

US Federal Regulations

Original Gorilla Glue	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard
Polyisocyanate Prepolymer based on MDI (67815-87-6)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Polymeric Diphenylmethane Diisocyanate (pMDI) (9016-87-9)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on United States SARA Section 313	
SARA Section 313 - Emission Reporting	1.0 %
4,4'-Diphenylmethane diisocyanate (101-68-8)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on United States SARA Section 313	
SARA Section 313 - Emission Reporting	1.0 %
Diphenylmethane Diisocyanate (MDI) Mixed Isomers (26447-40-5)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

US State Regulations

Original Gorilla Glue		
State or local regulations		
This product contains a trace (ppm) amount of phenyl isocyanate (CAS # 103-71-9) and monochlorobenzene (CAS # 108-90-7) as impurities. California Prop 65: Warning! This product contains chemical(s) known to the State of California to be Carcinogenic.		
Weight %	Component	CAS #



Safety Data Sheet - Original Gorilla Glue

Date Revised: 01/4/2019
Date Issued: 05/21/2015

Version: 1.5

FOR CHEMICAL EMERGENCY:

During Business Hours: (800) 966-3458 | Outside Business Hours: (800) 420-7186

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

<1 ppm	Acetaldehyde	75-07-0
1-5 ppm	Furan	110-00-9
<1 ppm	Propylene Oxide	75-56-9

Polymeric Diphenylmethane Diisocyanate (pMDI) (9016-87-9)

U.S. - New Jersey - Right to Know Hazardous Substance List

4,4'-Methylenediphenyl diisocyanate (101-68-8)

U.S. - Massachusetts - Right To Know List

U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List

U.S. - Pennsylvania - RTK (Right to Know) List

Diphenylmethane Diisocyanate (MDI) Mixed Isomers (26447-40-5)

U.S. - Massachusetts - Right To Know List

U.S. - New Jersey - Right to Know Hazardous Substance List

Canadian Regulations

Original Gorilla Glue

WHMIS Classification	Class D Division 2 Subdivision A - Very toxic material causing other toxic effects Class D Division 2 Subdivision B - Toxic material causing other toxic effects
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Polyisocyanate Prepolymer based on MDI (67815-87-6)

Listed on the Canadian DSL (Domestic Substances List)

Polymeric Diphenylmethane Diisocyanate (pMDI) (9016-87-9)

Listed on the Canadian DSL (Domestic Substances List)

WHMIS Classification	Class D Division 1 Subdivision A - Very toxic material causing immediate and serious toxic effects Class D Division 2 Subdivision A - Very toxic material causing other toxic effects Class D Division 2 Subdivision B - Toxic material causing other toxic effects
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4,4'-Methylenediphenyl diisocyanate (101-68-8)

Listed on the Canadian DSL (Domestic Substances List)

Listed on the Canadian IDL (Ingredient Disclosure List)

IDL Concentration 0.1 %

WHMIS Classification	Class D Division 2 Subdivision A - Very toxic material causing other toxic effects Class D Division 2 Subdivision B - Toxic material causing other toxic effects
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Diphenylmethane Diisocyanate (MDI) Mixed Isomers (26447-40-5)

Listed on the Canadian DSL (Domestic Substances List)

WHMIS Classification	Class D Division 1 Subdivision A - Very toxic material causing immediate and serious toxic effects Class D Division 2 Subdivision A - Very toxic material causing other toxic effects Class D Division 2 Subdivision B - Toxic material causing other toxic effects
----------------------	---

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all of the information required by CPR.

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Revision Date	: 04/27/18
Other Information	: This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.



Safety Data Sheet - Original Gorilla Glue

Date Revised: 01/4/2019

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FOR CHEMICAL EMERGENCY:

During Business Hours: (800) 966-3458 | Outside Business Hours: (800) 420-7186

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

GHS Full Text Phrases:

Acute Tox. 4 (Dermal)	Acute toxicity (dermal) Category 4
Acute Tox. 4 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 4
Eye Irrit. 2B	Serious eye damage/eye irritation Category 2B
Resp. Sens. 1	Respiratory sensitisation Category 1
Skin Irrit. 2	Skin corrosion/irritation Category 2
Skin Sens. 1	Skin sensitization Category 1
STOT RE 1	Specific target organ toxicity (repeated exposure) Category 1
STOT RE 2	Specific target organ toxicity (repeated exposure) Category 2
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H312	Harmful in contact with skin
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H320	Causes eye irritation
H332	Harmful if inhaled
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled
H335	May cause respiratory irritation
H372	Causes damage to organs through prolonged or repeated exposure
H373	May cause damage to organs through prolonged or repeated exposure

HMIS

HEALTH	3*
FLAMMABILITY	1
PHYSICAL HAZARD	0

Party Responsible for the Preparation of This Document

The Gorilla Glue Company
+1 513-271-3300

The information presented in this Safety Data Sheet was prepared by qualified personnel and to the best of our knowledge is true and accurate. The information and recommendations are furnished for this product with the understanding that the purchaser will independently determine the suitability of the product for this purpose. This data does not constitute a warranty, expressed or implied, statutory or otherwise, nor is it representation for which The Gorilla Glue Company assumes legal responsibility. The data is submitted for the user's information and consideration only. Any use of this product must be determined by the user to be in accordance with applicable federal, state, provincial and local laws and regulations.

Original Gorilla Glue NA GHS SDS

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 571.00

Revision Date: March 21, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Oxalic Acid Dihydrate

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261
 CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **DANGER**

Pictograms



SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Acute toxicity, oral and dermal (Category 4). Harmful if swallowed or in contact with skin (H302 +H312). Do not eat, drink or smoke when using this product (P270).

Hazard class: Skin corrosion or irritation (Category 1). Causes severe skin burns and eye damage (H314). Do not breathe dust or fumes (P260).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Oxalic acid dihydrate	6153-56-6	H ₂ C ₂ O ₄ ·2H ₂ O	126.07	
Synonym: Ethandionic acid				

SECTION 4 — FIRST AID MEASURES

Immediately call a POISON CENTER or physician (P310). **If inhaled:** Remove victim to fresh air and keep at rest in a position comfortable for breathing (P304+P340). **If in eyes:** Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing (P305+P351+P338). **If on skin (or hair):** Immediately remove all contaminated clothing. Rinse skin with water (P303+P361+P353). Wash contaminated clothing before reuse (P363). **If swallowed:** Rinse mouth. Do NOT induce vomiting (P301+P330+P331).

SECTION 5 — FIRE FIGHTING MEASURES

Combustible solid.
 When heated to decomposition, may emit toxic fumes.
In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA CODE
 H-3
 F-1
 R-0

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Wear complete PPE. Do not allow solid to become airborne. Ventilate area. Wipe up, place in sealed bag or container and dispose. Wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Organic #1. Store with acids, anhydrides and peracids.
Store in a cool dry place.

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection (P280). Wash hands thoroughly after handling (P264).
Exposure guidelines: (as oxalic acid) PEL/TLV 1 mg/m³ (OSHA, ACGIH), STEL 2 mg/m³ (ACGIH)

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Colorless to white crystalline solid. Odorless.
Soluble: Water and many common organic solvents.

Melting point: 101.5 °C, sublimes @ 157 °C
Specific gravity: 1.653

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with bases, acid chlorides, alkali metals, corrodes steel.
Shelf life: Indefinite, if stored properly.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: **May be FATAL if ingested**, severe skin and eye burns.
Chronic effects: Damaging to many organs and organ systems
Target organs: Kidneys, nervous system, skin, eyes, brain, heart

ORL-RAT LD₅₀: 375 mg/kg (Merck)
IHL-RAT LC₅₀: N.A.
SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

LC₅₀ Bluegill: 4000 mg/l 24 hours

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.
Flinn Suggested Disposal Method #24a is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Corrosive Solids, Toxic, N.O.S. Hazard class: 8. UN number: UN2923.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

Not listed.

SECTION 16 — OTHER INFORMATION

This Safety Data Sheet (SDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific, Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. The data should not be confused with local, state, federal or insurance mandates, regulations, or requirements and CONSTITUTE NO WARRANTY. Any use of this data and information must be determined by the science instructor to be in accordance with applicable local, state or federal laws and regulations. The conditions or methods of handling, storage, use and disposal of the product(s) described are beyond the control of Flinn Scientific, Inc. and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT(S).

Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: March 21, 2014



SDS #: 571.2

Revision Date: December 3, 2018

Safety Data Sheet (SDS)

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Oxalic Acid Solution 0.19 M or Less

Signal Word
WARNING

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261
 Chemtrec Emergency Phone Number: (800) 424-10086

Pictograms

SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Skin and serious eye damage, corrosion or irritation (Category 2, 2A). Causes skin and serious eye irritation (H315+H319).



SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Oxalic acid dihydrate	6153-56-6	H ₂ C ₂ O ₄ •2H ₂ O	126.07	1.9% or less
Water	7732-18-5	H ₂ O	18.00	98.5+%

SECTION 4 — FIRST AID MEASURES

Get medical advice or attention (P313).

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing (P305+P351+P338). **If eye irritation persists eyes:** Get medical advice or attention (P337+P313).

If on skin: Wash with plenty of water (P302+P352). **If skin irritation occurs:** Get medical advice or attention (P332+P313).

If swallowed: Rinse mouth. Do NOT induce vomiting.

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable, noncombustible solution.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA Code
 None established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Ventilate area. Contain spill with sand or absorbent material; deposit in sealed bag or container. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Organic #1. Store with acids, anhydrides and peracids.

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection (P280). Wash hands thoroughly after handling (P264).

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Clear liquid may have white solid sitting on the bottom of the container. Odorless.

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with bases, acid chlorides, alkali metals.
Shelf life: Indefinite, if stored properly.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Toxic if ingested, skin and eye irritation	ORL-RAT LD ₅₀ : 375 mg/kg (as oxalic acid dihydrate)
Chronic effects: Targets many organs and organ systems.	IHL-RAT LC ₅₀ : N.A.
Target organs: Kidneys, nervous system, brain, heart, eyes, mucous membranes	SKN-RBT LD ₅₀ : N.A.

SECTION 12 — ECOLOGICAL INFORMATION

LC₅₀ Bluegill: 4000 mg/l 24 hours for reagent grade

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.
Flinn Suggested Disposal Method #24a is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Not regulated. Hazard class: N/A. UN number: N/A.

SECTION 15 — REGULATORY INFORMATION

Not listed.

SECTION 16 — OTHER INFORMATION

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N.A. = Not available, not all health aspects of this substance have been fully investigated.

N/A = Not applicable

Consult your copy of the Flinn Science Catalog/Reference Manual for additional information about laboratory chemicals.

Revision Date: December 3, 2018

OXIDATION-REDUCTION TITRATIONS KIT # AP8815

Flinn Scientific

The Oxidation–Reduction Titrations Classic Lab Kit for AP® Chemistry provides students with the ability to practice the process of titration and standardization, writing half reactions and determining scientific calculations.

Chemicals Included:

Ferrous ammonium sulfate, 50 g

Manganese(II) sulfate solution, 1 M, 100 mL

Oxalic acid solution, 0.25 M, 100 mL

Potassium permanganate solution, 0.1 M, 500 mL

Sulfuric acid solution, 6 M, 500 mL, 2

****PLEASE LOOK UP CHEMICAL SDS'S INDIVIDUALLY****