SAFETY DATA SHEET

Christy's® Red Hot Blue Glue® PVC Plastic Pipe Cement
Christy's® Red Hot Blue Glue® Low VOC PVC Plastic Pipe Cement
Christy's® Red Hot Clear Glue® Low VOC PVC Plastic Pipe Cement
Christy's® CLEAR Heavy Low VOC PVC Plastic Pipe Cement

Date Revised: **AUG 2011**
Supersedes: **DEC 2010**

SECTION I - PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: **Christy's® Red Hot Blue Glue®**
Christy's® Red Hot Blue Glue® Low VOC
Christy's® Red Hot Clear®
Christy's® Clear Heavy Bodied Low VOC

SYNONYMS:

PRODUCT USE: Solvent Cement for PVC Plastic Pipe

MANUFACTURER: T Christy Enterprises, Inc
655 East Ball Road, Anaheim, CA 92805-5910
Tel. 1-714-507-3300 (North America)

SUPPLIER :
Tel. 1-714-507-3300 (International)

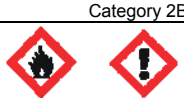
EMERGENCY: Transportation/Medical issues: Tel. 800.535.5053 INFOTRAK

SECTION 2 - HAZARDS IDENTIFICATION

GHS CLASSIFICATION:

Health		Environmental		Physical	
Acute Toxicity:	Category 4	Acute Toxicity:	Category III	Flammable Liquid/Aerosol/Gas:	Category 1
Skin Corrosion:	Category 3	Chronic Toxicity:	Category IV		
Skin Sensitization:	YES				
Eye:	Category 2B				

GHS LABEL:



WHMIS CLASSIFICATION: CONTROLLED PRODUCT
CLASS B, DIVISION 2 CLASS D, DIVISION 2B

Hazard Statements		Precautionary Statements (See Section 15 for all advisory and required precautions)		
Highly flammable liquid and vapor	May cause allergic skin reaction or rash.	Do not breathe vapor	Keep container closed	Use in well-ventilated area

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

	CAS#	EINECS #	REACH Pre-registration Number	CONCENTRATION % by Weight
Polyvinyl Chloride Resin (PVC)	NON/HAZ			
Tetrahydrofuran (THF)**	109-99-9	203-726-8	05-2116297729-22-0000	45-65
Methyl Ethyl Ketone (MEK)*	78-93-3	201-159-0	05-2116297728-24-0000	5-20
Cyclohexanone	108-94-1	203-631-1	05-2116297718-25-0000	10-30
Acetone	67-64-1	200-662-2	05-2116297713-35-0000	0-20

All of the constituents of this adhesive product are listed on the TSCA inventory of chemical substances maintained by the US EPA, or are exempt from that listing.
*This chemical is subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (40CFR372).

SECTION 4 - FIRST AID MEASURES

Contact with eyes: Flush eyes immediately with plenty of water for 15 minutes and seek medical advice immediately.
Skin contact: Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water. If irritation develops, seek medical advice.
Inhalation: Remove to fresh air. If breathing is stopped, give artificial respiration. If breathing is difficult, give oxygen. Seek medical advice.
Ingestion: Rinse mouth with water. Give 1 or 2 glasses of water or milk to dilute. Do not induce vomiting. Seek medical advice immediately.

SECTION 5 - FIREFIGHTING MEASURES

Suitable Extinguishing Media: Dry chemical powder, carbon dioxide gas, foam, Halon, water fog.
Unsuitable Extinguishing Media: Water spray or stream.
Exposure Hazards: Carbon monoxide, carbon dioxide, hydrogen chloride and smoke
Combustion Products: Carbon monoxide, carbon dioxide, hydrogen chloride and smoke
Protection for Firefighters: Self-contained breathing apparatus or full-face positive pressure airline masks.

	HMIS	NFPA	
Health	2	2	0-Minimal
Flammability	3	3	1-Slight
Reactivity	1	1	2-Moderate
			3-Serious
			4-Severe

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personal precautions: Keep away from heat, sparks and open flame.
Provide sufficient ventilation, use explosion-proof exhaust ventilation equipment or wear suitable respiratory protective equipment.
Prevent contact with skin or eyes (see section 8).
Environmental Precautions: Prevent product or liquids contaminated with product from entering sewers, drains, soil or open water course.
Methods for Cleaning up: Clean up with sand or other inert absorbent material. Transfer to a closable vessel (Metal or polyethylene [PE])
Materials not to be used for clean up: Liquid(s)

SECTION 7 - HANDLING AND STORAGE

Handling: Avoid breathing of vapor, avoid contact with eyes, skin and clothing.
Keep away from ignition sources, use only electrically grounded handling equipment and ensure adequate ventilation/fume exhaust hoods.
Do not eat; drink or smoke while handling.
Storage: Store in ventilated room or shade below 27°C (80°F) and away from direct sunlight.
Keep away from ignition sources and incompatible materials: caustics, ammonia, inorganic acids, chlorinated compounds, strong oxydizers and isocyanates.
Follow all precautionary information on container label, product bulletins and solvent cementing literature.

SECTION 8 - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION

EXPOSURE LIMITS:

Component	ACGIH TLV	ACGIH STEL	OSHA PEL	OSHA STEL:
Tetrahydrofuran (THF)	50 ppm skin	100 ppm	200 ppm	250 ppm
Methyl Ethyl Ketone (MEK)	200 ppm	300 ppm	200 ppm	300 ppm
Cyclohexanone	20 ppm skin		50 ppm	

Mfg. Recommended Allowable Exposure Limit (AEL): 25 ppm
Mfg. Recommended STEL: 75 ppm

Engineering Controls: If ventilated cabinet, enclosure or fume hood is necessary, average airflow should be at least 100 FPM (50.8 cm/sec).
Monitoring: Maintain breathing zone airborne concentrations below exposure limits.
Personal Protective Equipment (PPE):
Eye Protection: Avoid contact with eyes, wear splash proof chemical goggles, face shield, safety glasses (spectacles) with brow guards and side shields, etc. as may be appropriate for the exposure.
Skin Protection: Prevent contact with the skin as much as possible. Polyethylene or PVA coated rubber gloves should be used for frequent immersion. Use of latex/nitrile surgical gloves or solvent-resistant barrier cream should provide adequate protection when normal adhesive application practices and procedures are used for making structural bonds.
Respiratory Protection: Prevent inhalation of the solvents. Use in a well-ventilated room. Open doors and/or windows to ensure airflow and air changes. Use local exhaust ventilation to remove airborne contaminants from employee breathing zone and to keep contaminants below levels listed above. With normal use, the Exposure Limit Value will not usually be reached. When limits approached, use respiratory protection equipment.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES - Christy's® Red Hot Blue Glue®

Appearance:	Blue, medium syrupy liquid		
Odor:	Ethereal	**Odor Threshold:**	0.1 ppm (Cyclohexanone)
P.H.	Not Applicable		
Melting/Freezing Point:	-108.5°C (-163°F) Based on first boiling component: THF	**Boiling Range:**	67°C (151°F)
Boiling Point:	67°C (151°F) Based on first boiling component: Tetrahydrofuran (TH	**Evaporation Rate:**	> 1.0 (BUAC = 1)
Flash Point:	-14°C (7°F) T.C.C. based on THF	**Flammability:**	Category I
Specific Gravity	@23°C ± 2° (73°F ± 3.6°) Typical 0.990 ± 0.04	**Flammability Limits:**	**LEL:** 2%
Solubility:	Solvent portion completely soluble in water. Resin portion separates out.		**UEL:** 11.8%
Partition Coefficient n-octanol/water:	Not Available	**Vapor Pressure:**	143 mm Hg @ 20°C (68°F): THF
Auto-ignition Temperature:	321°C (609.8°F): THF	**Vapor Density:**	2.49 (Air = 1)
Decomposition Temperature:	Not Applicable	**Other Data: Viscosity:**	Medium bodied
VOC Content :	When applied as directed, per SCAQMD Rule 1168, Test Method 316A,VOC content is: ≤ 600 g/l.		

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES - Christy's® Red Hot Blue Glue® Low VOC

Appearance:	Blue, medium syrupy liquid		
Odor:	Ethereal	**Odor Threshold:**	0.1 ppm (Cyclohexanone)
P.H.	Not Applicable		
Melting/Freezing Point:	-95°C (-139°F) Based on first boiling component: Acetone	**Boiling Range:**	57°C (133°F) to 67°C (151°F)
Boiling Point:	57°C (133°F) Based on first boiling component: Acetone	**Evaporation Rate:**	> 1.0 (BUAC = 1)
Flash Point:	-14°C (-6.8°F) T.C.C. based on THF	**Flammability:**	Category I
Specific Gravity	@23°C ± 2° (73°F ± 3.6°) Typical 0.990 ± 0.04	**Flammability Limits:**	**LEL:** 2%
Solubility:	Solvent portion completely soluble in water. Resin portion separates out.		**UEL:** 11.8%
Partition Coefficient n-octanol/water:	Not Available	**Vapor Pressure:**	190 mm Hg @ 20°C (68°F): Acetone
Auto-ignition Temperature:	321°C (609.8°F): THF	**Vapor Density:**	2.49 (Air = 1)
Decomposition Temperature:	Not Applicable	**Other Data: Viscosity:**	Medium bodied
VOC Content :	When applied as directed, per SCAQMD Rule 1168, Test Method 316A,VOC content is: 510 g/l.		

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES - Christy's® Red Hot Clear®

Appearance:	Clear transparent, medium syrupy liquid		
Odor:	Ethereal	**Odor Threshold:**	0.1 ppm (Cyclohexanone)
P.H.	Not Applicable		
Melting/Freezing Point:	-95°C (-139°F) Based on first boiling component: Acetone	**Boiling Range:**	57°C (133°F) to 67°C (151°F)
Boiling Point:	57°C (133°F) Based on first boiling component: Acetone	**Evaporation Rate:**	> 1.0 (BUAC = 1)
Flash Point:	-14°C (-6.8°F) T.C.C. based on THF	**Flammability:**	Category I
Specific Gravity	@23°C ± 2° (73°F ± 3.6°) Typical 0.990 ± 0.04	**Flammability Limits:**	**LEL:** 2%
Solubility:	Solvent portion completely soluble in water. Resin portion separates out.		**UEL:** 11.8%
Partition Coefficient n-octanol/water:	Not Available	**Vapor Pressure:**	190 mm Hg @ 20°C (68°F): Acetone
Auto-ignition Temperature:	321°C (609.8°F): THF	**Vapor Density:**	2.49 (Air = 1)
Decomposition Temperature:	Not Applicable	**Other Data: Viscosity:**	Medium bodied
VOC Content :	When applied as directed, per SCAQMD Rule 1168, Test Method 316A,VOC content is: 510 g/l.		

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES - Christy's® Clear Heavy Bodied Low VOC

Appearance:	Clear, thick syrupy liquid		
Odor:	Ethereal	**Odor Threshold:**	0.1 ppm (Cyclohexanone)
P.H.	Not Applicable		
Melting/Freezing Point:	-108.5°C (-163°F) Based on first boiling component: THF	**Boiling Range:**	67°C (151°F)
Boiling Point:	67°C (151°F) Based on first boiling component: Tetrahydrofuran (TH	**Evaporation Rate:**	> 1.0 (BUAC = 1)
Flash Point:	-14°C (7°F) T.C.C. based on THF	**Flammability:**	Category I
Specific Gravity	@23°C ± 2° (73°F ± 3.6°) Typical 0.990 ± 0.04	**Flammability Limits:**	**LEL:** 2%
Solubility:	Solvent portion completely soluble in water. Resin portion separates out.		**UEL:** 11.8%
Partition Coefficient n-octanol/water:	Not Available	**Vapour Pressure:**	143 mm Hg @ 20°C (68°F): THF
Auto-ignition Temperature:	321°C (609.8°F): THF	**Vapour Density:**	2.49 (Air = 1)
Decomposition Temperature:	Not Applicable	**Other Data: Viscosity:**	Heavy bodied
VOC Content :	When applied as directed, per SCAQMD Rule 1168, Test Method 316A,VOC content is: ≤ 510 g/l.		

SECTION 10 - STABILITY AND REACTIVITY

Stability: Stable

Hazardous decomposition products: None in normal use. When forced to burn, this product gives off carbon monoxide (CO), carbon dioxide (CO_2), hydrogen chloride (HCl) and smoke.

Conditions to avoid: Keep away from heat, sparks, open flame and other ignition sources.

Incompatible Materials: Caustics, ammonia, inorganic acids, chlorinated compounds, strong oxidizers and isocyanates.

SECTION 11 - TOXICOLOGICAL INFORMATION

Likely Routes of Exposure: Inhalation, Eye and Skin Contact

Acute symptoms and effects:

Inhalation: Severe overexposure may result in nausea, dizziness, headache. Can cause drowsiness, irritation of eyes and nasal passages.

Eye Contact: Vapors slightly uncomfortable. Overexposure may result in severe eye injury with corneal or conjunctival inflammation on contact with the liquid.

Skin Contact: Liquid contact may remove natural skin oils resulting in skin irritation. Dermatitis may occur with prolonged contact.

Ingestion: May cause nausea, vomiting, diarrhea and mental sluggishness.

Chronic (long-term) effects: None known to humans

Toxicity:	LD_{50}	LC_{50}
Tetrahydrofuran (THF)	Oral: 2880 mg/kg (rat)	Inhalation 3 hrs. 21,000 PPM (rat)
Methyl Ethyl Ketone (MEK)_	Oral: 3.98 g/kg (rat), Dermal: 8-10 mg/kg (rabbit)	Inhalation 4 hrs. 4,000 PPM (rat)
Cyclohexanone	Oral: 1900 mg/kg (rat), Dermal: 1.0 g/kg (rabbit)	Inhalation LCLO, 4 hrs, 2,000 PPM (rat)

Reproductive Effects	Teratogenicity	Mutagenicity	Embryotyxicity	Sensitization to Product	Synergistic Products
Not Applicable	Not Applicable	Poss.	Not Applicable	Not Applicable	Not Available

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity: Category IV

Mobility: In normal use, emission of volatile organic compounds (VOC's) to the air takes place. Typically at a rate of ≤ 600 Grams/Litre. Minimal other adverse effects include possible ground water contamination from release to soil, sewers, drains or water course.

Degradability: Biodegradable

BioAccumulation: Minimal to none.

SECTION 13 - WASTE DISPOSAL CONSIDERATIONS

Follow local and national regulations. Consult disposal expert. Can be disposed of by controlled incineration. May be reacted with component "B" and disposed of as trash. Excessive quantities should not be permitted to enter drains, sewers or water courses. Empty containers should be air dried before disposing.

SECTION 14 - TRANSPORT INFORMATION

DOT, IATA, ADR, IMO/IMDG SHIPPING INFORMATION

Proper Shipping Name:	Adhesives	DOT EXCEPTION: Case quantities of cement in containers of less than one liter may be	
Hazard Class:	3	shipped as LIMITED QUANTITY or CONSUMER COMMODITY, ORM-D	
Secondary Risk	None		
Identification Number:	UN 1133		
Packing Group:	II	**TDG INFORMATION**	
Label Required:	Flammable Liquid	TDG CLASS:	FLAMMABLE LIQUID 3
		SHIPPING NAME:	ADHESIVES (TETRAHYDROFURAN)
Marine Pollutant:	NO	UN NUMBER:	1133, PG II

SECTION 15 - REGULATORY INFORMATION

Precautionary Label Information: Highly Flammable, Irritant

Symbols: F, Xi

Ingredient Listings: USA TSCA, Europe EINECS, Canada DSL, Australia AICS, Korea ECL/TCCL, Japan MITI (ENCS)

Risk Phrases:

R-11 Highly Flammable
R-20 Harmful by inhalation
R-21 Harmful in contact with skin.
R-22 Harmful if swallowed.
R-36/37/38 Irritating to eyes, respiratory system and skin.
R-41 Risk of serious damage to the eyes.
R-43 May cause sensitization by skin contact.

Safety Phrases:

S-2 Keep out of reach of children.
S-7 Keep container tightly closed when not in use.
S-9 Keep container in a well-ventilated place.
S-15/16 Keep away from heat and sources of ignition. No smoking.
S-23 Do not breathe vapor.
S-24/25 Avoid contact with skin and eyes.
S-29 Do not empty into drains.
S-37 Wear suitable gloves.
S-45 If seeking medical advice show physician label or SDS.
S-46 Use only in well ventilated areas.

SECTION 16 - OTHER INFORMATION

Specification Information:

Department issuing data sheet: Environmental Health & Safety
e-mail address: <EHSinfo@tchristy.com>

All ingredients are compliant with the requirements of the European Directive on RoHS (Restriction of Hazardous Substances).

Training necessary: Yes, training in practices and procedures contained in product literature.
Reissue date / reason for reissue: August 2011 / Updated information
Intended Use of Product: Adhesive for bonding/cementing PVC plastic pipe and fittings

This product is intended for use by skilled individuals at their own risk. The information contained herein is based on data considered accurate based on current state of knowledge and experience. However, no warranty is expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof.