



SAFETY DATA SHEET

Arrow 1104HB Low VOC PVC Plastic Pipe Cement

Date Revised: NOV 2019
Supersedes: NOV 2017

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Arrow 1104HB Low VOC PVC Plastic Pipe Cement
PRODUCT USE: Low VOC Solvent Cement for PVC Plastic Pipe

Distributed by
Rainbow Technology Corp.
Tel: 1.800.637.6047 / 205.733.0333
RTC Products #79400, 79401

MANUFACTURER: Arrow Adhesives Company
5457 Spalding Dr.
Norcross, GA 30092
Tel. 1-800-678-9058

EMERGENCY: Transportation/Medical issues: INFOTRAC 1-800-535-5053 (North America); 1-352-323-3500 (International)

SECTION 2 - HAZARDS IDENTIFICATION

GHS CLASSIFICATION:

Health	Environmental	Physical
Acute Toxicity: Category 4	Acute Toxicity: None Known	Flammable Liquid: Category 2
Skin Irritation: Category 3	Chronic Toxicity: None Known	
Skin Sensitization: No		
Eye: Category 2		

Signal Word: **DANGER**

GHS LABEL



WHMIS CLASSIFICATION: CONTROLLED PRODUCT
CLASS B, DIVISION 2 CLASS D, DIVISION 1B

Hazard Statements

H225 Highly flammable liquid and vapor
H319 Causes serious eye irritation
H332 Harmful if inhaled
H335 May cause respiratory irritation
H336 May cause drowsiness or dizziness
H351 Suspected of causing cancer
EUH019 May form explosive Peroxides
EUH066 Repeated exposure may cause skin dryness or cracking

Precautionary Statements

P201 Obtain special instructions before use.
P210 Keep away from heat / sparks / open flames / hot surfaces – No smoking
P261 Avoid breathing fumes/gas/vapors
P280 Wear protective gloves/ protective/ clothing/ eye protection/ face protection
P304 + P340 IF INHALED: remove person to fresh air and keep comfortable for breathing.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P501 Dispose of contents/container in accordance with local regulations.

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

	CAS#	EINECS #	REACH Pre-registration Number	CONCENTRATION % by Weight
Tetrahydrofuran (THF)	109-99-9	203-726-8	05-2116297729-22-0000	30 - 60
Methyl Ethyl Ketone (MEK)	78-93-3	201-159-0	05-2116297728-24-0000	10 - 30
Cyclohexanone	108-94-1	203-631-1	05-2116297718-25-0000	10 - 30
Acetone	67-64-1	200-662-2	05-2116297713-35-0000	10 - 30

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: Inhalation or dermal contact
Combustion Products: Oxides of carbon, hydrogen chloride and smoke

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

Protection for Firefighters: Self-contained breathing apparatus or full-face positive pressure airline masks.

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 source.
Methods for Cleaning up: Clean up with sand or other inert absorbent material. Transfer to a closable steel vessel.
Materials not to be used for clean up: Aluminum or plastic containers.

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 44°C (110°F) and away from direct sunlight.
Keep away from ignition sources and incompatible materials: caustics, ammonia, inorganic acids, chlorinated compounds, strong oxidizers 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	CAL/OSHA PEL	CAL/OSHA STEL
	Tetrahydrofuran (THF)	50 ppm	100 ppm	200 ppm	250 ppm
	Methyl Ethyl Ketone (MEK)	200 ppm	300 ppm	200 ppm	300 ppm
	Cyclohexanone	20 ppm	50 ppm	25 ppm	N/E
	Acetone	500 ppm	750 ppm	500 ppm	750 ppm

Engineering Controls: Use local exhaust as needed.
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. Butyl rubber gloves should be used for frequent immersion.
Use of solvent-resistant 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

Appearance: Clear, Gray or White heavy syrupy liquid
Odor: Ketone
P.H. Not Applicable
Melting/Freezing Point: -108.5°C (-163.3°F) Based on first melting component: THF
Boiling Point: 56°C (133°F) Based on first boiling component: Acetone
Flash Point: -20°C (-4°F) T.C.C. based on Acetone
Specific Gravity 0.965 @23°C (73°F)
Solubility: Solvent portion soluble in water. Resin portion separates out.
Partition Coefficient n-octanol/water: Not Available
Auto-ignition Temperature: 321°C (611°F): THF
Decomposition Temperature: Not Applicable
VOC Content: When applied as directed, per SCAQMD Rule 1168, Test Method 316A, VOC content is: ≤ 510g/l.

Odor Threshold: 0.88 ppm (Cyclohexanone)
Boiling Range: 56°C (133°F) to 156°C (313°F)
Evaporation Rate: > 1.0 (BUAC = 1)
Flammability: Category 2
Flammability Limits: LEL: 1.1% based on Cyclohexanone
 UEL: 12.8% based on Acetone
Vapor Pressure: 190 mm Hg @ 20°C (68°F): Acetone
Vapor Density: >2.0 (Air = 1)
Other Data: Viscosity: Heavy bodied

SECTION 10 - STABILITY AND REACTIVITY

Stability: Stable
Hazardous decomposition products: None in normal use. When forced to burn, this product gives off oxides of carbon, hydrogen chloride and smoke.
Conditions to avoid: Keep away from heat, sparks, open flame and other ignition sources.
Incompatible Materials: Oxidizers, strong acids and bases, amines, ammonia

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: Category 2 Carcinogen

Toxicity: LD₅₀ LC₅₀
 Tetrahydrofuran (THF) Oral: 2842 mg/kg (rat) Inhalation 3 hrs. 21,000 mg/m3 (rat)
 Methyl Ethyl Ketone (MEK) Oral: 2737 mg/kg (rat), Dermal: 6480 mg/kg (rabbit) Inhalation 8 hrs. 23,500 mg/m3 (rat)
 Cyclohexanone Oral: 1535 mg/kg (rat), Dermal: 948 mg/kg (rabbit) Inhalation 4 hrs, 8,000 PPM (rat)
 Acetone Oral: 5800 mg/kg (rat) Inhalation 50,100 mg/m3 (rat)

Reproductive Effects	Teratogenicity	Mutagenicity	Embryotoxicity	Sensitization to Product	Synergistic Products
Not Established	Not Established	Not Established	Not Established	Not Established	Not Established

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity: Not Known
Mobility: In normal use, emission of volatile organic compounds (VOC's) to the air takes place. Typically at a rate of ≤ 510 Grams/Liter.
Degradability: Not readily biodegradable
Bioaccumulation: Minimal to none.

SECTION 13 - WASTE DISPOSAL CONSIDERATIONS

Follow local and national regulations. Consult disposal expert.

SECTION 14 - TRANSPORT INFORMATION

Proper Shipping Name: Adhesives
Hazard Class: 3
Secondary Risk: None
Identification Number: UN 1133
Packing Group: II
Label Required: Class 3 Flammable Liquid

DOT Limited Quantity: Up to 5L per inner packaging, 30 kg gross weight per package.
Consumer Commodity: Depending on packaging, these quantities may qualify under DOT as "ORM-D".

TDG INFORMATION
TDG CLASS: FLAMMABLE LIQUID 3
SHIPPING NAME: ADHESIVES
UN NUMBER / PACKING GROUP: 1133, PG II

Marine Pollutant: NO

SECTION 15 - REGULATORY INFORMATION

Precautionary Label Information: Highly Flammable, Irritant, Carc. Cat. 2
Symbols: F, Xi
Risk Phrases: R-11 Highly Flammable
 R-20 Harmful by inhalation
 R-21 Harmful in contact with skin.
 R-22 Harmful if swallowed.
Safety Phrases: S-2 Keep out of reach of children.
 S-9 Keep container in a well-ventilated place.
 S-15/16 Keep away from sources of ignition. No smoking.
 S-24/25 Avoid contact with skin and eyes.

Ingredient Listings: USA TSCA, Europe EINECS, Canada DSL, Australia AICS, Korea ECL/TCCL, Japan MITI (ENCS)
 R-36/37/38 Irritating to eyes, respiratory system and skin.
 R-66 Repeated exposure may cause skin dryness / cracking
 R-67 Vapors may cause drowsiness and dizziness
 S-26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
 S-33 Take precautionary measures against static discharges.
 S-46 If swallowed, seek medical advice immediately and show can label.

SECTION 16 - OTHER INFORMATION

Specification Information:
Department issuing data sheet: Arrow, Environmental Health & Safety
E-mail address: < info@arrowadhesives.com >
Training necessary: Yes, training in practices and procedures contained in product literature.
Reissue date / reason for reissue: NOV 2019 / Changed format
Intended Use of Product: Solvent cement for PVC plastic pipe and fittings

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

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.