

**PLIOBOND® 2024 Contact Adhesive**  
(continued)

TYPICAL ADHESION PROPERTIES				
Test	Substrate	1 Day	3 Days	7 Days
Peel Strength, pli, 77°F	Cotton/Cotton	33 <sup>b</sup>	39 <sup>b</sup>	39 <sup>b</sup>
	Cotton/Steel	11 <sup>b</sup>	13 <sup>b</sup>	13 <sup>b</sup>
	Cotton/Plywood	34 <sup>b</sup>	16 <sup>a</sup>	16 <sup>a</sup>
Heat Performance ASTM D-816, °F		400		
Open Time Test, minutes		15-20		
Application Temperature, °F	40-100			
Cure Cycle	72 hours at 77°F			

- a Substrate Failure
- b Adhesive Failure

**METHOD OF APPLICATION:**

1. Remove dirt and foreign matter from surfaces of substrates.
2. Shake or stir adhesive before using.
3. Apply adhesive, 2-3 mils thick, to both substrates. Allow for absorption on porous substrates.
4. Allow substrates to dry for 8 to 10 minutes before assembling.
5. Assemble surfaces. Apply pressure to provide good adhesive contact.

**NOTE:** If adhesive is allowed to dry out before assembly, it can be reactivated by brushing surfaces with an organic solvent (methyl ethyl ketone or toluene) or heating surfaces to 160°F.

**SPRAY APPLICATION:** For spraying PLIOBOND 2024 contact adhesive, the following equipment is recommended:

Spray Gun	Binks MBC	Devilbiss JGA
Needle	FX	FX
Tip	FX	FX
Air Cap	704	704
Line Pressure, psi	5	5
Atomization Pressure, psi	50-60	50-60

**HANDLING:** PLIOBOND 2024 contact adhesive contains ingredients which could be harmful if mishandled. Contact with skin and eyes should be avoided and necessary protective equipment and clothing should be worn.

Ashland Chemical Company maintains Material Safety Data Sheets on all of its products. Material Safety Data Sheets contain health and safety information for your development of appropriate product handling procedures to protect your employees and customers.

Our Material Safety Data Sheets should be read and understood by all of your supervisory personnel and employees before using Ashland Chemical products in your facilities.

**RECOMMENDED STORAGE:** When PLIOBOND 2024 contact adhesive is stored indoors, out of direct sunlight, and in the original, unopened container between 60°F and 80°F, the shelf life is six months. Always rotate stock.

SPECIALTY POLYMERS  
& ADHESIVES DIVISION



Ashland Specialty Chemical Company  
Division of Ashland Inc.

# ASHLAND SAFETY DATA SHEET

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CONTACT CEMENT - FLAMMABLE

ATTN: JOSH

EC-

## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

THE RUSCOE COMPANY  
485 KENMORE BLVD  
AKRON, OH 44301  
330-253-8148

Emergency telephone number 800-424-9300  
CHEMTREC (24 HOURS)

Product name CONTACT CEMENT - FLAMMABLE  
Product code 571607  
Product Use Description No data

## 2. HAZARDS IDENTIFICATION

### Emergency Overview

Appearance: liquid, light green

DANGER! Flammable Liquid, Moderate skin irritant, Severe eye irritant.

### Potential Health Effects

#### Routes of Exposure

Inhalation, Skin absorption, Skin contact, Ingestion

#### Eye Contact

Can cause eye irritation. Symptoms include stinging, tearing, redness, and swelling of eyes.

#### Skin Contact

Can cause skin irritation. Prolonged or repeated contact may dry the skin. Symptoms may include redness, burning, and drying and cracking of skin, burns and other skin damage. Additional symptoms of skin contact may include: allergic skin reaction (delayed skin rash which may be followed by blistering, scaling and other skin effects)

#### Ingestion

Swallowing small amounts of this material during normal handling is not likely to cause harmful effects. Swallowing large amounts may be harmful. This material can get into the lungs during swallowing or vomiting. This results in lung inflammation and other lung injury.



**RUBBER SUPPLY**  
1111 E. 1st  
WICHITA, KS 67214

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#### **Inhalation**

Breathing of vapor or mist is possible. Breathing small amounts of this material during normal handling is not likely to cause harmful effects. Breathing large amounts may be harmful.

#### **Aggravated Medical Condition**

Preexisting disorders of the following organs (or organ systems) may be aggravated by exposure to this material: respiratory tract, skin, lung (for example, asthma-like conditions), liver, kidney, central nervous system, auditory system, eye

#### **Symptoms**

Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include: stomach or intestinal upset (nausea, vomiting, diarrhea), irritation (nose, throat, airways), central nervous system depression (dizziness, drowsiness, weakness, fatigue, nausea, headache, unconsciousness), temporary changes in mood and behavior, irregular heartbeat, and death

#### **Target Organs**

Prolonged and repeated exposure to n-hexane may cause peripheral neuropathy by damaging peripheral nerve tissue (that of the arms and legs) and result in muscular weakness and loss of sensation. Prolonged and repeated inhalation of high levels of mixed isomers of hexane resulted in kidney damage in male rats. The effects observed are the same as those seen in male rats exposed to other hydrocarbons. The mechanism by which these chemicals cause the characteristic kidney toxicity is unique to the male rat and the kidney effects are not expected to occur in man. Prolonged intentional toluene abuse may lead to damage to many organ systems having effects on: central and peripheral nervous systems, vision, hearing, liver, kidneys, heart and blood. Such abuse has been associated with brain damage characterized by disturbances in gait, personality changes and loss of memory. Comparable central nervous system effects have not been shown to result from occupational exposure to toluene. Prolonged intentional toluene abuse may lead to hearing loss progressing to deafness. In addition, while noise is known to cause hearing loss in humans, it has been suggested that workers exposed to organic solvents, including toluene, along with noise may suffer greater hearing loss than would be expected from exposure to noise alone. Overexposure to this material (or its components) has been suggested as a cause of the following effects in laboratory animals: liver abnormalities, nasal damage, eye damage, kidney damage, brain damage, effects on hearing, testis damage, lung damage, central nervous system damage. Overexposure to this material (or its components) has been suggested as a cause of the following effects in humans: visual impairment, kidney damage, central nervous system effects

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## Carcinogenicity

This product may contain non-asbestiform talc. Inhalation of non-asbestiform talc has been shown to cause lung and adrenal cancer in female rats and adrenal gland cancer in male rats. It did not cause cancer in male or female mice similarly exposed. Talc is not listed as a carcinogen by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP), or the Occupational Safety and Health Administration (OSHA).

## Reproductive Hazard

Toluene may be harmful to the human fetus based on positive test results with laboratory animals. Case studies show that prolonged intentional abuse of toluene during pregnancy can cause birth defects in humans.

## Other Information

No data

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS-No.	Concentration
SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC	64742-89-8	>=30-<40%
ACETONE	67-64-1	>=20-<30%
TOLUENE	108-88-3	>=15-<20%
2-CHLORO-1,3- BUTADIENE/METHACRYLIC ACID	25053-30-9	>=10-<15%

### 4. FIRST AID MEASURES

#### Eyes

If symptoms develop, immediately move individual away from exposure and into fresh air. Flush eyes gently with water for at least 15 minutes while holding eyelids apart; seek immediate medical attention.

#### Skin

Remove contaminated clothing. Flush exposed area with large amounts of water. If skin is damaged, seek immediate medical attention. If skin is not damaged and symptoms persist, seek medical attention. Launder clothing before reuse.

#### Ingestion

Seek medical attention. If individual is drowsy or unconscious, do not give anything by mouth; place individual on the left side with the head down. Contact a

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physician, medical facility, or poison control center for advice about whether to induce vomiting. If possible, do not leave individual unattended.

### Inhalation

If symptoms develop, move individual away from exposure and into fresh air. If symptoms persist, seek medical attention. If breathing is difficult, administer oxygen. Keep person warm and quiet; seek immediate medical attention.

### Notes to Physician

**Hazards:** This material is an aspiration hazard. Potential danger from aspiration must be weighed against possible oral toxicity (See Section 2 - Swallowing) when deciding whether to induce vomiting.

**Treatment:** No information available.

## 5. FIRE-FIGHTING MEASURES

### Suitable Extinguishing Media

Water mist, carbon dioxide (CO<sub>2</sub>), dry chemical

### Hazardous Combustion Products

May form: carbon dioxide and carbon monoxide, phenols, various hydrocarbons

### Precautions for Fire-Fighting

Material is volatile and readily gives off vapors which may travel along the ground or be moved by ventilation and ignited by pilot lights, flames, sparks, heaters, smoking, electric motors, static discharge or other ignition sources at locations near the material handling point. Wear full firefighting turn-out gear (full Bunker gear), and respiratory protection (SCBA).

### Flammability Class for Flammable Liquids

Flammable Liquid Class IB

## 6. ACCIDENTAL RELEASE MEASURES

### Personal Precautions

For personal protection see section 8. Eliminate all ignition sources (flares, flames including pilot lights, electrical sparks). Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Stop spill at source. Prevent from entering drains, sewers, streams or other bodies of water. Prevent from spreading. If runoff occurs, notify authorities as required. Pump or vacuum

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transfer spilled product to clean containers for recovery. Absorb unrecoverable product. Transfer contaminated absorbent, soil and other materials to containers for disposal.

## Environmental Precautions

No data

## Methods for Cleaning Up

Absorb liquid on vermiculite, floor absorbent, or other absorbent material and transfer to hood.

## 7. HANDLING AND STORAGE

### Handling

Containers of this material may be hazardous when emptied. Since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed. Static ignition hazard can result from handling and use. Electrically bond and ground all containers, personnel and equipment before transfer or use of material. Special precautions may be necessary to dissipate static electricity for non-conductive containers. Use proper bonding and grounding during product transfer as described in National Fire Protection Association document NFPA 77.

### Storage

No data

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### Exposure Guidelines

ACETONE		67-64-1
ACGIH	time weighted average	500 ppm
ACGIH	Short term exposure limit	750 ppm
NIOSH	Recommended exposure limit (REL):	250 ppm
NIOSH	Recommended exposure limit (REL):	590 mg/m <sup>3</sup>
OSHA Z1	Permissible exposure limit	1,000 ppm
OSHA Z1	Permissible exposure limit	2,400 mg/m <sup>3</sup>
TOLUENE		108-88-3
ACGIH NIC	time weighted average	20 ppm
ACGIH	time weighted average	50 ppm
NIOSH	Recommended exposure limit (REL):	100 ppm
NIOSH	Recommended exposure limit	375 mg/m <sup>3</sup>

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	(REL):	
NIOSH	Short term exposure limit	150 ppm
NIOSH	Short term exposure limit	560 mg/m <sup>3</sup>
OSHA Z2	time weighed average	200 ppm
OSHA Z2	Ceiling Limit Value:	300 ppm
OSHA Z2	Maximum concentration:	500 ppm

## General Advice

These recommendations provide general guidance for handling this product. Personal protective equipment should be selected for individual applications and should consider factors which affect exposure potential, such as handling practices, chemical concentrations and ventilation. It is ultimately the responsibility of the employer to follow regulatory guidelines established by local authorities.

## Exposure Controls

Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below TLV(s).

## Eye Protection

Chemical splash goggles in compliance with OSHA regulations are advised; however, OSHA regulations also permit other type safety glasses. Consult your safety representative.

## Skin and Body Protection

Wear resistant gloves (consult your safety equipment supplier). To prevent repeated or prolonged skin contact, wear impervious clothing and boots.

## Respiratory Protection

If workplace exposure limit(s) of product or any component is exceeded (see exposure guidelines), a NIOSH approved air supplied respirator is advised in absence of proper environmental control. OSHA regulations also permit other NIOSH respirators (negative pressure type) under specified conditions (see your industrial hygienist). Engineering or administrative controls should be implemented to reduce exposure.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	liquid
Form	No data
Colour	light green
Odour	No data
Boiling point/range	133.0 °F / 56.1 °C @ 760 mmHg
pH	No data
Flash point	0 °F / -18 °C Seta closed cup

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Evaporation rate	1 Ethyl Ether
Explosion limits	No data
Vapour pressure	140.0000 mmHg @ 68.00 °F / 20.00 °C
Vapour density	2.6
Density	0.818 g/cm <sup>3</sup> @ 77 °F / 25 °C 6.81 lb/gal @ 77 °F / 25 °C
Solubility	No data
Partition coefficient (n-octanol/water)	No data
Autoignition temperature	No data

**10. STABILITY AND REACTIVITY**

**Stability**

Stable.

**Conditions to Avoid**

Avoid contact with:

**Incompatible Products**

Avoid contact with:, strong alkalis, strong mineral acids, strong oxidizing agents

**Hazardous Decomposition Products**

May form:, carbon dioxide and carbon monoxide, phenols, various hydrocarbons

**Hazardous Reactions**

Product will not undergo hazardous polymerization.

**Thermal Decomposition**

No data

**11. TOXICOLOGICAL INFORMATION**

**Acute Oral Toxicity**

SOLVENT NAPHTHA (PETROLEUM), LD 50 Rat: 8,000 mg/kg  
LIGHT ALIPHATIC

ACETONE LD 50 Rat: 5,800 mg/kg



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TOLUENE LD 50 Rat: 5,000 mg/kg

**Acute Inhalation Toxicity**

SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC LC 50 Rat: 3400 ppm, 4 h

ACETONE LC 50 Rat: 16000 ppm, 4 h

TOLUENE LC 50 Rat: 8000 ppm, 4 h

**Acute Dermal Toxicity**

SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC LD 50 Rat: 4,000 mg/kg

ACETONE LD 50 Rabbit: 20,000 mg/kg

TOLUENE LD 50 Rabbit: 12,124 mg/kg

**12. ECOLOGICAL INFORMATION**

**Aquatic Toxicity**

**Acute and Prolonged Toxicity to Fish**

No data

**Acute Toxicity to Aquatic Invertebrates**

No data

**Environmental Fate and Pathways**

No data

**13. DISPOSAL CONSIDERATIONS**

**Waste Disposal Methods**

This product contains a small amount of chromium which must be considered during waste disposal in accordance with the Resource Conservation and Recovery Act (RCRA), (D007). Destroy by liquid incineration in accordance with applicable

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regulations.

**14. TRANSPORT INFORMATION**

**IMDG:**  
UN1133, ADHESIVES 3, II  
**IATA\_P:**  
UN1133, Adhesives 3, II  
**IATA\_C:**  
UN1133, Adhesives 3, II  
**CFR\_ROAD:**  
UN1133, Adhesives 3, II  
**CFR\_RAIL:**  
UN1133, Adhesives 3, II  
**CFR\_INWTR:**  
UN1133, Adhesives 3, II  
**IMDG\_INWTR:**  
UN1133, ADHESIVES 3, II  
**IMDG\_ROAD:**  
UN1133, ADHESIVES 3, II  
**IMDG\_RAIL:**  
UN1133, ADHESIVES 3, II

Dangerous goods descriptions may not reflect package size, quantity, end-use or region-specific exceptions that can be applied to shipments. Consult shipping documents for material-specific descriptions.

**15. REGULATORY INFORMATION**

**California Prop. 65**

WARNING! This product contains a chemical known in the State of California to cause cancer.

ETHYL BENZENE

BENZENE

QUARTZ / SAND

WARNING! This product contains a chemical known in the State of California to cause birth defects or other reproductive harm.

TOLUENE

BENZENE

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**Additional Regulations**

US. Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))

**SARA Hazard Classification** · Fire Hazard  
Acute Health Hazard

**SARA 313 Component(s)**

TOLUENE 108-88-3 16.0853%

**OSHA Hazards**

Flammable Liquid  
Moderate skin irritant  
Severe eye irritant

	<b>Health</b>	<b>Flammability</b>	<b>Reactivity</b>	<b>Other</b>
<b>HMIS</b>	2	3	0	
<b>NFPA</b>				No data

**16. OTHER INFORMATION**

The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances.