



# MATERIAL SAFETY DATA SHEET

FILE NO.: C4V2  
MSDS DATE: 04/30/2009  
MSDS No.: C4043009

**Product: C4**

## SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** C4 Nitrile Contact Adhesive  
**PRODUCT CODES:** C4QT1, C4GL1, C4GL5  
**COMPANY NAME:** SmartAdhesives LLC  
**ADDRESS:** San Francisco, CA 94129

**EMERGENCY PHONE:** Chemtrec: 1-800-424-9300

**PRODUCT USE:** Nitrile-based contact adhesive; Industrial use  
**ISSUE DATE:** 4-30-2009

## SECTION 2: INFORMATION ON INGREDIENTS

<u>HAZARDOUS INGREDIENT:</u>	<u>C.A.S. No.</u>	<u>% by Wt.</u>
Acetone	67-64-1	60-70%

## SECTION 3: HAZARDS IDENTIFICATION

**EMERGENCY OVERVIEW:** Normal physical form - liquid

### IMMEDIATE HEALTH AND ENVIRONMENTAL HAZARDS

Extremely flammable liquid and vapor. May cause flash fire. May cause eye and skin irritation. Vapor overexposure may cause respiratory tract irritation and central nervous system depression. Vapors may travel along the ground to an ignition source and ignite explosively.

### POTENTIAL HEALTH EFFECTS

**EYE CONTACT:** Moderate eye irritant. Symptoms may include tearing, distorted vision, redness, swelling, and pain.

**SKIN CONTACT:** Mild skin irritant. Prolonged or repeated exposure may dry skin and cause irritation or dermatitis. Symptoms may include swelling, itching, and redness.

**INHALATION:** Vapor overexposure may cause respiratory tract irritation and central nervous system depression. Symptoms may include coughing, nasal discharge, headache, sore throat pain, and nose pain. May be absorbed following inhalation and cause central nervous system depression. Such symptoms may include dizziness, giddiness, drowsiness, headache, nausea, slow reaction time, slurred speech, and unconsciousness.

**INGESTION:** Not expected to be ingested under normal conditions of use. If ingested, symptoms of gastrointestinal irritation may include nausea, vomiting, diarrhea, and stomach pain. May be absorbed following ingestion and cause central nervous system depression. Such symptoms may include dizziness, giddiness, drowsiness, headache, nausea, slow reaction time, slurred speech, and unconsciousness.

### MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:

Skin contact may aggravate existing dermatitis. Liquid and vapor exposure may aggravate preexisting eye and respiratory disorders.

## CARCINOGENICITY

OSHA: NO

NTP: NO

IARC: NO

**SECTION 4: FIRST AID MEASURES**

**EYES:** Immediately flush eyes with plenty of water. If symptoms persist, seek medical advice.

**SKIN:** Immediately flush skin with plenty of water. If symptoms persist, seek medical advice.

**INGESTION:** Do not induce vomiting unless instructed by medical professionals. Drink two glasses of water, unless person is unconscious. Seek medical advice.

**INHALATION:** Move to fresh air. If symptoms persist, seek medical advice.

**SECTION 5: FIRE FIGHTING MEASURES**

**FLAMMABLE LIMITS UPPER:** 2.2%  
**(% BY VOLUME) LOWER:** 13.0%

**FLASH POINT:** -4°F (-20°C) (closed cup)  
**AUTOIGNITION TEMP:** 465°C (869°F)

**NFPA HAZARD CLASSIFICATION****HEALTH: 2 FLAMMABILITY: 3 REACTIVITY: 0 OTHER: none****HMIS HAZARD CLASSIFICATION****HEALTH: 2 FLAMMABILITY: 3 REACTIVITY: 0 PROTECTION: K**

**EXTINGUISHING MEDIA:** Use Class B fire extinguishing agents (e.g. foam, carbon dioxide (CO<sub>2</sub>), dry chemical)

**SPECIAL FIRE FIGHTING PROCEDURES:**

Self-contained breathing apparatus and full protective clothing. Water can be used to keep containers cool and prevent explosive rupture of containers. Water may not extinguish the fire.

**UNUSUAL FIRE AND EXPLOSION HAZARDS:**

Closed containers may build pressure and explode if exposed to heat. Vapors may travel on ground to an ignition source and ignite explosively.

**HAZARDOUS DECOMPOSITION PRODUCTS:**

see Section 10

**SECTION 6: ACCIDENTAL RELEASE MEASURES****ACCIDENTAL RELEASE MEASURES:**

No action shall be taken involving any personal risk or without suitable training. Evacuate untrained and unprotected people from release areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8). Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Highly flammable material. Remove all ignition sources such as flames, smoking materials, and electrical spark sources. Use only non-sparking tools. Ventilate the area with fresh air. If large spill or spill in confined space, ventilate with mechanical ventilation

to disperse or exhaust vapors. NOTE: motors can be an ignition source and could cause ignition of vapors in the spill area.

For large spill, use fire-extinguishing foam. An aqueous film forming foam is recommended. Cover spill area, starting from the edge, with inorganic absorbent material (e.g. bentonite, vermiculite) until spill area appears dry. Use non-sparking tools to collect all spill material and place in metal container approved by appropriate authorities. Clean up residue with an appropriate solvent selected by authorized person. Ventilate the area with fresh air. Collect the resulting residue containing the solution. Seal container and dispose of collected material as soon as possible.

**SECTION 7: HANDLING AND STORAGE**

**HANDLING:** Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face with soap and water before eating, drinking and smoking. Open carefully (contents may be under pressure). Avoid static discharge, wear low static or grounded shoes. Vapors may ignite explosively or cause flash fire. Prevent build up of vapors and use only with proper ventilation. Vapors can collect in low lying areas. Keep away from any ignition devices, heat, sparks, flames, and lighters.

Do not get in eyes. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Do not use when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container. Put on appropriate personal protective equipment (see section 8).

**STORAGE:** Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from acids and oxidizing agents, and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Do not transfer to plastic containers. Do not store near heat or open flames. Store in accordance with local regulations.

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

**ENGINEERING CONTROLS**

**VENTILATION :** Use mechanical ventilation and/or local exhaust, sufficient in pattern and volume, to meet the TLV requirements and prevent explosive concentrations of vapors.

**RESPIRATORY PROTECTION:** Avoid breathing vapors. Atmospheric levels should be maintained below the exposure guidelines. If these levels are exceeded, wear an approved, full face, supplied air respirator or an approved positive pressure, self-contained breathing apparatus.

**EYE PROTECTION:** Avoid contact with eyes. Use safety glasses with side shields or indirect vented goggles.

**SKIN PROTECTION:** Avoid contact with skin. Use gloves made from Butyl Rubber or Polyethylene/Ethylene Vinyl Alcohol.

**OTHER PROTECTIVE CLOTHING OR EQUIPMENT:** Eye wash fountain or bottles. Barrier hand cream (solvent insoluble).

**WORK HYGIENIC PRACTICES:** Remove contaminated clothing and launder before next use.

**EXPOSURE GUIDELINES:**

	<u>Organization</u>	<u>Type</u>	<u>Limit</u>
Acetone	ACGIH (TLV)	TWA	500 ppm
	ACGIH (TLV)	STEL	750 ppm
	OSHA (PEL)	TWA	1,000 ppm

ADGIH: American Conference of Governmental Industrial Hygienists  
 OSHA: Occupational Safety and Health Administration

**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

<b>COLOR &amp; APPEARANCE:</b>	Tan, low viscosity liquid	<b>VAPOR PRESSURE (mmHg):</b>	Not available
<b>ODOR THRESHOLD:</b>	Mildly pungent, slightly aromatic	<b>VAPOR DENSITY (AIR=1):</b>	>1
<b>PHYSICAL FORM:</b>	Liquid	<b>SPECIFIC GRAVITY (H2O=1):</b>	0.9
<b>FLAMMABLE LIMITS</b>		<b>EVAPORATION RATE:</b>	slower than ether
<b>LEL:</b>	2.2% by volume		
<b>UEL:</b>	13.0% by volume		
<b>BOILING POINT:</b>	>=133°F (56°C)	<b>SOLUBILITY IN WATER:</b>	Negligible
<b>AUTOIGNITION TEMP:</b>	465°C	<b>VISCOSITY:</b>	220 ± 20 cP
<b>FLASH POINT:</b>	-4°F (-20°C)	<b>VOLATILE ORGANIC COMPOUNDS (VOC)</b>	
(Pensky-Martens Closed Cup ASTM D 93)		<b>VOC:</b>	0 g/l
		<b>VOC less H2O &amp; Exempt Solvent:</b>	0 g/l
<b>pH AS SUPPLIED:</b>	Not available		

**SECTION 10: STABILITY AND REACTIVITY**

**STABILITY:** Stable.

**MATERIALS AND CONDITIONS TO AVOID (STABILITY):**  
 Keep away from all sources of ignition and heat. Keep away from strong oxidizing agents (can cause spontaneous combustion).

**HAZARDOUS DECOMPOSITION OR BY-PRODUCTS:**  
 Burning or combustion may produces fumes of carbon dioxide, carbon monoxide, hydrogen cyanide, phenols, and nitrous oxides.

**HAZARDOUS POLYMERIZATION:** Will not occur.

**SECTION 11: TOXICOLOGICAL INFORMATION**

**TOXICOLOGICAL INFORMATION:** NA

**SECTION 12: ECOLOGICAL INFORMATION**

**ECOLOGICAL INFORMATION:** Not determined.

**SECTION 13: DISPOSAL CONSIDERATIONS**

**WASTE DISPOSAL METHOD:** Solvent can be reclaimed if feasible. Dispose through a RCRA approved incinerator or RCRA approved waste facility. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

**RCRA HAZARD CLASS:** D001 (Ignitable)

**SECTION 14: TRANSPORT INFORMATION**

**U.S. DEPARTMENT OF TRANSPORTATION (ROAD)**

**PROPER SHIPPING NAME:** Adhesives, 3, UN 1133 PGIII (Consumer commodity for containers of 1 gallon or less)  
**HAZARD CLASS:** 3 (ORM-D for containers of 1 gallon or less)  
**ID NUMBER:** UN1133  
**PACKING GROUP:** III (for containers of 1 gallon or less)

**SECTION 15: REGULATORY INFORMATION**

**U.S. FEDERAL REGULATIONS**

**311/312 HAZARD CATEGORIES:**

Fire: Yes      Immediate: Yes      Pressure: No      Reactivity: No      Delayed: No

**STATE REGULATIONS**

**California Prop. 65:** This product contains a chemical known to the State of California to cause cancer and/or birth defects or other reproductive harm.

**SECTION 15 NOTES:** Contact company for more information.

**SECTION 16: OTHER INFORMATION**

**OTHER INFORMATION:**

<b>Hazardous Material Information System III (U.S.A.)</b>	Health : 2 Flammability: 3 Reactivity: 0 Protection : K
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**PREPARATION INFORMATION:**

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