SMITHERS–OASIS NORTH AMERICA
919 MARVIN AVENUE • P.O. BOX NUMBER 118 • KENT, OHIO 44240

MATERIAL SAFETY DATA SHEET

OASIS® Floral Adhesive

SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION	
IDENTITY OASIS® Floral Adhesive	**DATE PREPARED** 6/10/2003
SYNONYMS, CHEMICAL NAMES, COMMON NAMES OASIS® Floral Adhesive	**USE:** Floral adhesive

MANUFACTURER'S NAME **Smithers-Oasis**	**TELEPHONE NUMBER - INFORMATION** (330) 673-5831
ADDRESS 919 Marvin Avenue P.O. Box 118 Kent, OH 44240 USA	**TELEPHONE NUMBER – EMERGENCY** Transportation emergency: CHEMTREC: 800 424-9300 International Transportation: CHEMTREC: 703-527-3887 Rocky Mountain Poison and Drug Center: 303 623-5716

SECTION 2 - COMPOSITION, INFORMATION ON INGREDIENTS			
HAZARDOUS COMPONENTS	**OSHA PEL**	**ACGIH TLV**	**%**
Hexane (CAS# 110-54-3)	500 ppm TWA 2000 mg/m^3 TWA	400 ppm TWA	40-50%
Acetone (CAS# 67-64-1)	1000 ppm TWA 2400 mg/m^3 TWA	500 ppm TWA 750 ppm STEL	10-20%
Proprietary Ingredients-solids	None established	None established	50-30%
Remaining components, if any, are not hazardous or hazardous components are present at less than 1% (0.1% for carcinogens).			

EMERGENCY OVERVIEW
Thick tan liquid with sweet, pungent odor. Extremely flammable liquid and vapor. May cause dizziness and drowsiness. Overexposure may cause damage to the peripheral nervous system. May cause irritation to skin, eyes, and respiratory tract. May cause skin sensitization. Aspiration hazard if swallowed. Can enter lungs and cause damage.

SECTION 3 -HAZARDS IDENTIFICATION

PRIMARY ROUTE(s) OF EXPOSURE:

Inhalation; skin; eyes; ingestion; skin absorption

IRRITATION DATA:

May cause irritation to skin, eyes, and upper respiratory tract.

Standard Draize test (skin/rabbbit): Mild @ 500 mg/24H	Acetone
Standard Draize test (eye/rabbit): Severe @ 20mg	Acetone
Standard Draize test (eye/rabbit): Mild@ 10mg	Hexane

INHALATION:

ACUTE: Vapors may cause irritation to the eyes, nose, and respiratory tract. High vapor concentration may cause CNS depression, evidenced by giddiness, headache, dizziness, and nausea.

CHRONIC: Prolonged and repeated inhalation of vapors may cause peripheral and central nervous system damage, evidenced by muscular weakness and loss of sensation in arms and legs. Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling this material may be harmful or fatal.

SKIN CONTACT:

ACUTE: Irritating to skin. Contact may cause redness, itching, burning, and skin damage. Contact may result in skin absorption.

CHRONIC: Prolonged and repeated contact can result in defatting, drying, and cracking of the skin which may result in irritation and dermatitis. Prolonged contact may result in skin sensitization in sensitive individuals.

EYE CONTACT:

ACUTE: May cause irritation experienced as discomfort or pain, and seen as excess redness and swelling of the eyes, with possible injury to the cornea.

CHRONIC: Irritation and conjunctivitis.

INGESTION:

ACUTE: Ingestion may cause abdominal discomfort, nausea, and transient excitation followed by signs of nervous system depression including headache, drowsiness, dizziness, loss of coordination, disorientation, and fatigue. Aspiration may occur during swallowing or vomiting resulting in lung inflammation and damage.

CHRONIC: See section 11.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE

Persons with pre-existing skin, eye, or respiratory tract conditions may be at increased risk from exposure. Impaired peripheral nerve function from preexisting disorders may be aggravated by exposure to a component of this product. Exposure to high concentrations of this material may increase the sensitivity of the heart to certain drugs. Persons with pre-existing heart disorders may be more susceptible to this effect.

SECTION 4 - EMERGENCY AND FIRST AID PROCEDURES

INHALATION: Remove from exposure to fresh air immediately. If breathing has stopped, give artificial respiration. If breathing difficulties develop, oxygen may be administered by qualified personnel. Get medical attention.

SKIN CONTACT: Remove contaminated clothing and shoes. Wash affected area with soap and water until no evidence of the chemical remains. If irritation or redness develops, get medical attention. If the skin surface is damaged, apply a clean dressing and get medical attention.

EYE CONTACT: Flush thoroughly with water for at least 15 minutes, occasionally lifting the upper and lower lids, until no evidence of the chemical remains. Get medical attention.

INGESTION: Do not induce vomiting. Treat symptomatically and supportively. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into lungs. If possible, do not leave victim unattended and observe closely for adequacy of breathing. Get medical attention.

SECTION 5 - FIRE FIGHTING MEASURES

FLASH POINT	FLAMMABLE LIMITS	LEL	UEL
-15° F (Hexane)		1.0	12.8

AUTOIGNITION TEMPERATURE: 437° F/ 225° C

EXTINGUISHING MEDIA

Foam, carbon dioxide, or dry chemical powder is recommended. Water spray is recommended to cool or protect exposed materials or structures. Water may be ineffective for extinguishment.

SPECIAL FIRE FIGHTING PROCEDURES

Firefighters should wear full protective NIOSH approved self-contained breathing apparatus.
Cool fire exposed containers with water. Water spray may be useful in minimizing or dispersing vapors. Avoid spreading burning liquid with water used for cooling purposes.

UNUSUAL FIRE AND EXPLOSION HAZARDS

Extremely flammable. Can be ignited by heat, sparks, flames, or other sources of ignition (e.g. static electricity, pilot lights, mechanical/electrical equipment, and electronic devices such as cell phones, computers, calculators, and pagers.) Vapors may ignite or explode. Vapors may travel considerable distances to a source of ignition where they can ignite, flash back, or explode. My create vapor/air explosion hazard indoors, in confined spaces, outdoors, or in sewers. Vapors are heavier than air and can accumulate in low areas. Containers exposed to extreme heat should be cooled with water to prevent vapor pressure buildup which could result in container rupture.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Wear suitable protective equipment. Extremely flammable. Eliminate all ignition sources. Keep hot metal surfaces away from spill/release. Handling equipment must be grounded to prevent sparking. The use of explosion-proof equipment is recommended. Use foam on spills to minimize vapors. Take up with absorbent material and place in non-leaking container. Seal tightly for proper disposal.

SECTION 7 - HANDLING AND STORAGE

Open container slowly to relieve any pressure. Bond and ground when transferring from one container to another. Can accumulate static charge by flow or agitation. Can be ignited by static discharge. The use of explosion proof equipment is recommended.

Wash thoroughly after handling. Do not wear contaminated clothing or shoes. Keep contaminated clothing away from sources of ignition. Use good personal and industrial hygiene practices.

Keep containers closed when not in use. Prohibit smoking when handling or processing this material
Store in a cool, dry well ventilated area. Do not store near heat or open flames. Do not store in direct sunlight.

SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION

RESPIRATORY PROTECTION

Where airborne concentrations may exceed guidelines for permissible air concentrations, choose a respirator in accordance with OSHA Respirator Standard 29 CFR 1910.134.

VENTILATION

Use general dilution or local exhaust ventilation to maintain exposure below the exposure limits.

PROTECTIVE GLOVES

The use of gloves is recommended to prevent skin contact, irritation, and skin absorption. Choose appropriate gloves in accordance with OSHA Personal Protective Equipment Standard 29 CFR 1910.132.

EYE PROTECTION

The use of a face shield or chemical goggles is recommended. Choose in accordance with OSHA 29 CFR 1910.133.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT

Appropriate protective clothing to minimize repeated and prolonged skin contact with this material. Depending upon conditions of use, an apron and/or arm covers may be necessary.

An eye wash fountain and safety shower should be provided.

RECOMMENDED EXPOSURE LIMITS

Acetone	500 ppm TWA
Hexane	50 ppm TWA

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT	133° F (acetone)	**SPECIFIC GRAVITY**	0.80
pH	Not available	**MELTING POINT**	Not applicable
VAPOR PRESSURE (mm Hg)	5.6 psi @ 100°F	**SOFTENING POINT**	Not applicable
VAPOR DENSITY (Air = 1)	3	**EVAPORATION RATE**	8.1
SOLUBILITY	Not soluble in water.		
COEFFICIENT OF WATER/OIL DISTRIBUTION:	3.9 (hexane)		
APPEARANCE AND ODOR:	Thick, tan liquid with sweet, pungent odor.		

SECTION 10 - STABILITY AND REACTIVITY

STABILITY	**Unstable**		**Conditions to Avoid**
	Stable	X	Heat, spark, flames, and contact with oxidizers. Prevent vapor accumulation.

INCOMPATIBILITY (Materials to Avoid)

Strong oxidizing material.

HAZARDOUS DECOMPOSITION PRODUCTS

Oxides of carbon, unidentified organic compounds, acrolein, irritating aldehydes, carboxylic acids, and ketones.

HAZARDOUS	**May Occur**		**Conditions to Avoid**
POLYMERIZATION	**Will Not Occur**	X	None known.

SECTION 11 - TOXICOLOGICAL INFORMATION

This formulation has not been tested for acute toxicity.

Oral LD_{50} (rat): 5800 mg/kg	Acetone
Oral LD_{50} (rat): >5000 mg/kg	Hexane
Inhalation LC_{50} (rat): 50,100 mg/m3/8H	Acetone

Inhalation LC_{50} (rat): >3,367 ppm/4H	Hexane
Dermal LD_{Lo} (rabbit): 20 mL/kg	Acetone
Dermal LD_{50} (rabbit): >2000 mg/kg	Hexane

Carcinogenicity: Not listed by IARC, NTP, or OSHA
Reproductive data(RTECS): Reported for acetone and hexane.
Mutagenicity data (RTECS): Reported for acetone and hexane.
Fetotoxicity data: None known
Teratology data: Reported for hexane.

ADDITIONAL TOXICOLOGY DATA:

There is limited evidence from animal studies that overexposure may cause injury to the male reproductive system.

SECTION 12 - ECOLOGICAL INFORMATION

This formulation has not been tested for environmental effects.

The following data is for acetone:
BOD_5: 56% bio. Ox. Fresh water
BOD_{10}: 67% bio. Ox. Fresh water
COD: 100% ThOD
TOD: 2.20
Biological Effects (Toxicity threshold):
Bacteria: 1700 mg/l
Algae: 530 mg/l
Protozoa: 28 mg/l

The following data is for hexane:
BOD_5: 2.21
COD: 0.04
ThOD: 3.52

Biological Effects:
Algae: giant kelp: little or no effect on the photosynthetic activity: 10mg/l
Fish: goldfish: LD_{50} (24hr) = 4 mg/l

SECTION 13 - DISPOSAL CONSIDERATIONS

Dispose in accordance with all applicable federal, state, and local environmental regulations.

If discarded in its original form, material may be regulated by Resource Conservation and Recovery Act (RCRA) as a hazardous waste due to the characteristic of ignitability (D001). As a waste, this material may be subject to land disposal restrictions.

SECTION 14 - TRANSPORT INFORMATION

PROPER SHIPPING NAME	Adhesives, containing a flammable liquid
HAZARD CLASS or DIVISION	3- Flammable liquid
PACKING GROUP	PG II
IDENTIFICATION NUMBER	UN 1133

Material is not regulated as a DOT Marine Pollutant

SECTION 15 - REGULATORY INFORMATION

OSHA: This material is classified as hazardous under OSHA regulations.

TSCA: All components are listed on the TSCA 8(b) inventory.

SARA Title III - Toxic chemicals list 40 CFR 372.65:

Hexane

SARA HAZARD CATEGORIES:

Acute Health Hazard	Chronic Health Hazard	Fire Hazard	Reactive Hazard	Sudden Release of Pressure
Yes	Yes	Yes	No	No

CERCLA Hazardous Substances List 40 CFR 302:

Acetone	RQ = 5000lbs.
Hexane	RQ = 5000lbs.

RCRA Hazardous Waste Codes 40 CFR 261.21:

D001	Ignitable

DSL: All components are on the Domestic Substances List.

WHMIS: This material is considered a B2, D2B Controlled Product. This material has been classified in accordance with the hazard criteria of the Controlled Product Regulations. This MSDS has been prepared in compliance with the CPR. Ingredients requiring reporting under WHMIS IDL are:

Hexane
Acetone

SECTION 16 - OTHER INFORMATION

HMIS Ratings:

Health	2*
Flammability	3
Reactivity	0

where 0=minimal, 1=slight, 2=moderate, 3=serious, 4=severe

The information and recommendations set forth herein are made in good faith and are believed to be accurate as of the date of preparation. Smithers-Oasis makes no warranty, either expressed or implied, with respect to this information and disclaims all liability from reliance on it.

Issued by Smithers-Oasis Safety and Environmental Department.