

## MATERIAL SAFETY DATA SHEET

MSDS 0074

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 Section 1 -- PRODUCT AND COMPANY IDENTIFICATION  
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PRODUCT NAME	Gene 404	HMIS CODES	Health	3
			Flammability	3
			Reactivity	1
			PPI	B
PRODUCT CODES	55011, 55013, 55014, 55015, 55017, 55019			
CHEMICAL FAMILY	Organic			
USE	PVC Solvent Cement			
MANUFACTURER'S NAME	The RectorSeal Corporation	EMERGENCY TELEPHONE NO.	Chemtrec 24 Hours	
	2601 Spenwick Drive		(800) 424-9300	
	Houston, Texas 77055 USA			
VALIDATION DATE	March 14, 2006	TECHNICAL SERVICE TELEPHONE NO.	(800) 231-3345	
REVISION DATE	March 14, 2006			

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 Section 2 -- COMPOSITION/INFORMATION ON INGREDIENTS  
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% by WT	CAS No.	INGREDIENT	UNITS	
40	78-93-3	Methyl Ethyl Ketone		
		ACGIH TLV	200	ppm
		OSHA PEL	200	ppm
		STEL	300	ppm
20-60	109-99-9	Tetrahydrofuran		
		ACGIH TLV	50	ppm
		OSHA PEL	200	ppm
		STEL	250	ppm
20-60	108-94-1	Cyclohexanone		
		ACGIH TLV	20	ppm (skin)
		OSHA PEL	50	ppm

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 Section 3 -- HAZARDS IDENTIFICATION  
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## SUMMARY OF ACUTE HAZARDS

Overexposure may cause coughing, shortness of breath, dizziness, central nervous system depression, intoxication and collapse. It may cause irritation to the respiratory tract and to other mucous membranes.

## ROUTE OF EXPOSURE, SIGNS AND SYMPTOMS

## INHALATION

Overexposure may cause coughing, shortness of breath, dizziness, central nervous system depression, intoxication and collapse. It may cause irritation to the respiratory tract and to other mucous membranes.

## EYE CONTACT

Severely irritating. If not removed promptly, will injure eye tissue, which can result in permanent damage.

## SKIN CONTACT

Frequent or prolonged contact may irritate and cause dermatitis. Low order of toxicity.

## INGESTION

Low order of toxicity. Small amounts of the liquid aspirated into the respiratory system during ingestion, or from vomiting, may cause

bronchiopneumonia or pulmonary edema.

#### SUMMARY OF CHRONIC HAZARDS

Repeated or prolonged exposure may cause signs of central nervous system depression and respiratory irritation. This material has been shown to induce tumors in laboratory animals.

#### MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

Individuals with pre-existing or chronic diseases of the eyes, skin, respiratory system, cardiovascular system, gastrointestinal system, liver, or kidneys may have increased susceptibility to excessive exposure.

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#### Section 4 -- FIRST AID MEASURES

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If INHALED: If overcome by exposure, remove victim to fresh air immediately. Give oxygen or artificial respiration as . Obtain emergency medical attention. Prompt action is essential.

If on SKIN: Immediately flush with large amounts of water; use soap if available. Remove contaminated clothing.

If in EYES: Immediately flush with large amounts of water for at least 15 minutes. Get prompt medical attention.

If SWALLOWED: If swallowed, DO NOT induce vomiting. Keep at rest. Get prompt medical attention.

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#### Section 5 -- FIRE FIGHTING MEASURES

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FLASH POINT	LEL	UEL
28 F (-2 C) SETA CC	2%	11.8%

#### EXTINGUISHING MEDIA

Foam, dry chemical, carbon dioxide or water fog.

SPECIAL FIRE FIGHTING PROCEDURES: Wear self-contained breathing apparatus (SCBA) and other protective clothing. Hazardous decomposition products possible (see Section 10).

UNUSUAL FIRE AND EXPLOSION HAZARDS: Extremely flammable - very low flash point. Vapors are heavier than air and may travel along ground or to low spots at considerable distance to a source of ignition resulting in potential flashback. Burning liquid may float on water. Heat may build up pressure and rupture closed containers.

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#### Section 6 -- ACCIDENTAL RELEASE MEASURES

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STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Remove all sources of ignition. Use absorbent materials to prevent footing hazard and to contain. Ventilate area with natural or explosion-proof, forced air ventilation. Avoid flushing into sewers, drains, waterways, and soil. Wear protective clothing and respiratory protection during cleanup.

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#### Section 7 -- HANDLING AND STORAGE

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PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Keep container closed and upright when not in use. Do not store near heat, sparks, or open flames. If transferring this material to other containers, ground all containers to avoid static electricity buildup and discharge which may ignite flammable vapors.

OTHER PRECAUTIONS: Avoid prolonged or repeated contact with skin or clothing. Empty containers may contain residues and vapors; treat as if full and observe all products precautions. Do not reuse empty containers. KEEP OUT OF REACH OF CHILDREN.

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#### Section 8 -- EXPOSURE CONTROLS/PERSONAL PROTECTION

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RESPIRATORY PROTECTION (SPECIFY TYPE): In confined poorly ventilated areas, use NIOSH/MSHA approved air purifying or supplied air purifying or supplied air respirators.

VENTILATION - LOCAL EXHAUST: Acceptable

SPECIAL: Explosion-proof equipment.

MECHANICAL (GENERAL): Preferable

OTHER: N/A

PROTECTIVE GLOVES: Wear rubber gloves.

EYE PROTECTION: Chemical splash goggles (ANSI Z-87.1 or equivalent)

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: Coveralls recommended.

WORK/HYGIENIC PRACTICES: Where use can result in skin contact, wash exposed areas thoroughly before eating, drinking, smoking, or leaving work area. Launder contaminated clothing before reuse.

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Section 9 -- PHYSICAL AND CHEMICAL PROPERTIES  
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BOILING POINT: 151 F (66 C) @ 760mm Hg  
 SPECIFIC GRAVITY (H2O = 1): 0.93  
 VAPOR PRESSURE (mm Hg): 140 @ 68 F (20 C)  
 MELTING POINT: N/A  
 VAPOR DENSITY (AIR = 1): 2.5  
 EVAPORATION RATE (ETHYL ACETATE = 1): 6  
 APPEARANCE/ODOR: Clear Liquid/Pungent Odor  
 SOLUBILITY IN WATER: 50%  
 VOLATILE ORGANIC COMPOUNDS (VOC) Content  
 (Theoretical Percentage By Weight): 87.2% or (872 g/L)

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Section 10 -- STABILITY AND REACTIVITY  
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STABILITY: Can form potentially explosive peroxides upon long standing in air.  
 CONDITIONS TO AVOID: Heat, sparks, open flames, and strong oxidizing, acidic and basic conditions.  
 INCOMPATIBILITY (MATERIALS TO AVOID): Oxidizers, acids and bases.  
 HAZARDOUS DECOMPOSITION PRODUCTS: CO, CO2, HCl and fragmented hydrocarbons.  
 HAZARDOUS POLYMERIZATION: Will not occur.

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Section 11 -- TOXICOLOGY INFORMATION  
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CHRONIC HEALTH HAZARDS

No ingredient in this product is an IARC, NTP or OSHA listed carcinogen. Tetrahydrofuran - The National Toxicology Program has reported that exposures of mice and rats to THF vapor levels up to 1800 ppm 6hr/day, 5 days/week for their lifetime caused an incidence of kidney tumors in male rats and liver tumors in female mice. The significance of these findings for human health are unclear at this time, and may be related to "species specific" effects. Elevated incidences of tumors in humans have not been reported for THF.

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TOXICOLOGY DATA

Ingredient Name

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Methyl Ethyl Ketone

Oral-Rat LD50:2737 mg/kg

Inhalation-Rat LC50:23,500 mg/m3/8H

Tetrahydrofuran

Oral-Rat LD50:1650 mg/kg

Inhalation-Rat LC50:21,000 ppm/3H

Cyclohexanone

Oral-Rat LD50:1535 mg/kg

Inhalation-Rat LC50:8000 ppm/4H

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 Section 12 -- Ecological Information  
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## ECOLOGICAL DATA

Ingredient Name  
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## Methyl Ethyl Ketone

Food Chain Concentration Potential: None

WATERFOWL TOXICITY: N/A

BOD: 214%

AQUATIC TOXICITY: 5640 mg/l/48 hr/bluegill/TLm/fresh water

## Tetrahydrofuran

Food Chain Concentration Potential: None

WATERFOWL TOXICITY: N/A

BOD: N/A

AQUATIC TOXICITY: N/A

## Cyclohexanone

Food Chain Concentration Potential: None

WATERFOWL TOXICITY: N/A

BOD: N/A

AQUATIC TOXICITY: N/A  
=====Section 13 -- DISPOSAL CONSIDERATIONS  
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Waste Classification: RCRA classified hazardous waste. Dispose of absorbed materials and liquid waste in approved, controlled incineration facility in accordance with all local, state and federal regulations.

Disposal Method: Incineration  
=====Section 14 -- TRANSPORTATION INFORMATION  
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DOT: Adhesives, Class 3, UN 1133, PG II, ERG#127.

Quarts and less: Consumer Commodity, ORM-D

OCEAN (IMDG): Adhesives, Class 3, UN 1133, PG II, IMDG#3174, EMS#3-05, MFAG#330

Quarts and less: Adhesives, Class 3, UN 1133, PG II, Limited Quantities or Ltd Qty

AIR (IATA): Adhesives, Class 3, UN 1133, PG II, ERG#127

WHMIS (CANADA): Class B-2  
=====Section 15 -- REGULATORY INFORMATION  
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## REGULATORY DATA

Ingredient Name  
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## Methyl Ethyl Ketone

SARA 313 Yes

TSCA Inventory Yes

CERCLA RQ 5,000 lb.

RCRA Code U159

## Tetrahydrofuran

SARA 313 No

TSCA Inventory Yes

CERCLA RQ 1,000 lb.

RCRA Code U213

## Cyclohexanone

SARA 313 No

TSCA Inventory Yes

CERCLA RQ 5,000 lb.

RCRA Code U057

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Section 16 -- OTHER INFORMATION  
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This document is prepared pursuant to the OSHA Hazard Communication Standard (29 CFR 1910.1200). The information herein is given in good faith, but no warranty, expressed or implied is made. Consult RectorSeal for further information: (713) 263-8001