

SAFETY DATA SHEET

SECTION 1) CHEMICAL PRODUCT AND SUPPLIER'S IDENTIFICATION

Product ID: 494805
Product Name: MARKONEX GEL
Revision Date: Nov 05, 2015 **Date Printed:** Nov 05, 2015
Version: 1.0 **Supersedes Date:** N.A.
Manufacturer's Name: Zenex International
Address: 1 Zenex Circle Cleveland, OH, US, 44146
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Information Phone Number: (440)-232-4155
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Product/Recommended Uses: Gel Vandal Remover

SECTION 2) HAZARDS IDENTIFICATION

Classification:

Specific Target Organ Toxicity -Single Exposure (Narcotic Effects) - Category 3
Specific Target Organ Toxicity - Repeated Exposure - Category 2
Aspiration Hazard - Category 1
Skin Irritation - Category 3
Aerosol - Category 1
Eye Irritation - Category 2A
Carcinogenicity - Category 2
Reproductive Toxicity - Category 2
Acute aquatic toxicity - Category 3
Chronic aquatic toxicity - Category 3
Acute toxicity, Oral - Category 5

Pictograms:



Signal Word:

Danger

Hazardous Statements - Physical:

H222, H229 - Extremely flammable aerosol, Pressurized container may burst if heated

Hazardous Statements - Health:

H336 - May cause drowsiness or dizziness
H373 - May cause damage to organs through prolonged or repeated exposure.
H304 - May be fatal if swallowed and enters airways
H316 - Causes mild skin irritation
H319 - Causes serious eye irritation
H351 - Suspected of causing cancer.

H361 - Suspected of damaging fertility or the unborn child.

H303 - May be harmful if swallowed

Hazardous Statements - Environmental:

H412 - Harmful to aquatic life with long lasting effects

Precautionary Statements - General:

P101 - If medical advice is needed, have product container or label at hand.

P102 - Keep out of reach of children.

P103 - Read label before use.

Precautionary Statements - Prevention:

P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.

P271 - Use only outdoors or in a well-ventilated area.

P264 - Wash thoroughly after handling.

P280 - Wear eye protection/face protection.

P202 - Do not handle until all safety precautions have been read and understood.

P273 - Avoid release to the environment.

P211 - Do not spray on an open flame or other ignition source.

P251 - Do not pierce or burn, even after use.

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Precautionary Statements - Response:

P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P314 - Get medical advice/attention if you feel unwell.

P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

P331 - Do NOT induce vomiting.

P332 + P313 - If skin irritation occurs: Get medical advice/attention.

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337 + P313 - If eye irritation persists: Get medical advice/attention.

P308 + P313 - IF exposed or concerned: Get medical advice/attention.

Precautionary Statements - Storage:

P410 - Protect from sunlight.

P412 - Do not expose to temperatures exceeding 50°C/122°F.

P403 + P405 - Store in a well-ventilated place. Store locked up.

Precautionary Statements - Disposal:

P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

SECTION 3) COMPOSITION / INFORMATION ON INGREDIENTS

CAS	Chemical Name	% By Weight
0000108-88-3	TOLUENE	16% - 28%
0000067-64-1	ACETONE	8% - 20%
0000106-97-8	BUTANE	3% - 8%
0000108-10-1	METHYL ISOBUTYL KETONE	2% - 4%
0000075-28-5	ISOBUTANE	1.0% - 4%
0000074-98-6	PROPANE	1.0% - 4%

SECTION 4) FIRST-AID MEASURES

Inhalation:

Remove source of exposure or move person to fresh air and keep comfortable for breathing.

If exposed/feel unwell/concerned: Call a POISON CENTER/doctor.

Eliminate all ignition sources if safe to do so.

Eye Contact:

Remove source of exposure or move person to fresh air. Rinse eyes cautiously with lukewarm, gently flowing water for several minutes, while holding the eyelids open. Remove contact lenses, if present and easy to do. Continue rinsing for a duration of 15-20 minutes. Take care not to rinse contaminated water into the unaffected eye or onto the face. If eye irritation persists: Get medical advice/attention.

Skin Contact:

Take off immediately all contaminated clothing, shoes and leather goods (e.g. watchbands, belts). Gently blot or brush away excess product. Wash with plenty of lukewarm, gently flowing water for a duration of 15-20 minutes. Call a POISON CENTER/doctor if you feel unwell. Store contaminated clothing under water and wash before reuse or discard.

Ingestion:

Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER/doctor. If vomiting occurs naturally, lie on your side, in the recovery position.

Never give anything by mouth to an unconscious or convulsing victim. Keep person warm and quiet.

SECTION 5) FIRE-FIGHTING MEASURES

Suitable Extinguishing Media:

Use water, fog, dry chemical, or carbon dioxide.

Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces. Simultaneous use of foam and water on the same surface is to be avoided as water destroys the foam.

Unsuitable Extinguishing Media:

Water may be ineffective but can be used to cool containers exposed to heat or flame.

Specific Hazards in Case of Fire:

Contents under pressure. Keep away from ignition sources and open flames. Exposure of containers to extreme heat and flames can cause them to rupture often with violent force.

Aerosol cans may rupture when heated.

Heated cans may burst.

In fire, will decompose to carbon dioxide, carbon monoxide

Fire-Fighting Procedures:

Isolate immediate hazard area and keep unauthorized personnel out. Stop spill/release if it can be done safely. Move undamaged containers from immediate hazard area if it can be done safely. Water spray may be useful in minimizing or dispersing vapors and to protect personnel.

Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

Special Protective Actions:

Wear protective pressure self-contained breathing apparatus (SCBA) and full turnout gear.

Care should always be exercised in dust/mist areas.

SECTION 6) ACCIDENTAL RELEASE MEASURES

Emergency Procedure:

Flammable/combustible material.

ELIMINATE all ignition sources (no smoking, flares, sparks, or flames in immediate area). Stay upwind; keep out of low areas.

Immediately turn off or isolate any source of ignition. Keep unnecessary people away; isolate hazard area and deny entry. Do not touch or walk through spilled material. Clean up immediately. Use absorbent sweeping compound to soak up material and put into suitable container for proper disposal.

Recommended Equipment:

Positive pressure, full-face piece self-contained breathing apparatus(SCBA), or positive pressure supplied air respirator with escape SCBA (NIOSH approved).

Personal Precautions:

ELIMINATE all ignition sources (no smoking, flares, sparks, or flames in immediate area). Use explosion proof equipment. Avoid breathing vapor. Avoid contact with skin, eye or clothing. Do not touch damaged containers or spilled materials unless wearing appropriate protective clothing.

Environmental Precautions:

Stop spill/release if it can be done safely. Prevent spilled material from entering sewers, storm drains, other unauthorized drainage systems and natural waterways by using sand, earth, or other appropriate barriers.

SECTION 7) HANDLING AND STORAGE

General:

For industrial and institutional use only.
For use by trained personnel only.
Keep away from children.
Wash hands after use.
Do not get in eyes, on skin or on clothing.
Do not breathe vapors or mists.
Use good personal hygiene practices.
Eating, drinking and smoking in work areas is prohibited.
Remove contaminated clothing and protective equipment before entering eating areas.
Eyewash stations and showers should be available in areas where this material is used and stored.

Ventilation Requirements:

Use only with adequate ventilation to control air contaminants to their exposure limits. The use of local ventilation is recommended to control emissions near the source.

Storage Room Requirements:

Keep container(s) tightly closed and properly labeled. Store in cool, dry, well-ventilated areas away from heat, direct sunlight and incompatibilities. Store in approved containers and protect against physical damage. Keep containers securely sealed when not in use. Indoor storage should meet OSHA standards and appropriate fire codes. Containers that have been opened must be carefully resealed to prevent leakage. Empty container retain residue and may be dangerous.

Do not cut, drill, grind, weld, or perform similar operations on or near containers. Do not pressurize containers to empty them. Ground all structures, transfer containers and equipment to conform to the national electrical code. Use procedures that prevent static electrical sparks. Static electricity may accumulate and create a fire hazard.

Store at temperatures below 120°F.

SECTION 8) EXPOSURE CONTROLS, PERSONAL PROTECTION

Eye Protection:

Chemical goggles, safety glasses with side shields or vented/splash proof goggles. Contact lenses may absorb irritants. Particles may adhere to lenses and cause corneal damage.

Skin Protection:

Wear gloves, long sleeved shirt, long pants and other protective clothing as required to minimize skin contact.

Use of gloves approved to relevant standards made from the following materials may provide suitable chemical protection: PVC, neoprene or nitrile rubber gloves. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, glove thickness, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Chemical-resistant clothing is recommended to avoid prolonged contact. Avoid unnecessary skin contact.

Respiratory Protection:

If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker, a respiratory protection program that meets or is equivalent to OSHA 29 CFR 1910.134 and ANSI Z88.2 should be followed. Check with respiratory protective equipment suppliers. Where air-filtering respirators are suitable, select an appropriate combination of mask and filter. Select a filter suitable for combined particulate/organic gases and vapors.

When spraying more than one half can continuously or more than one can consecutively, use NIOSH approved respirator.

Chemical Name	OSHA TWA (ppm)	OSHA TWA (mg/m3)	OSHA STEL (ppm)	OSHA STEL (mg/m3)	OSHA Tables (Z1, Z2, Z3)	OSHA Carcinogen	OSHA Skin designation	NIOSH TWA (ppm)	NIOSH TWA (mg/m3)	NIOSH STEL (ppm)	NIOSH STEL (mg/m3)	NIOSH Carcinogen
ACETONE	1000	2400			1			250	590			
BUTANE								800	1900			
ETHYL ALCOHOL	1000	1900			1			1000	1900			
ISOBUTANE								800	1900			
METHYL ISOBUTYL KETONE	100	410			1			50	205	75	300	
MORPHOLINE	20	70			1		1	20	70	30	105	
PROPANE	1000	1800			1			1000	1800			
TOLUENE	200 (a)/ 300 ceiling	0.2	500ppm /10 minutes (a)		1,2			100	375	150	560	

Chemical Name	ACGIH TWA (ppm)	ACGIH TWA (mg/m3)	ACGIH STEL (ppm)	ACGIH STEL (mg/m3)
ACETONE	500	1188	750	1782
BUTANE	1000			
ETHYL ALCOHOL			1000	
ISOBUTANE	1000			
METHYL ISOBUTYL KETONE	20		75	307
MORPHOLINE	20	71		
PROPANE	See Appendix F: Minimal Oxygen Content			
TOLUENE	20	0.2		

SECTION 9) PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical Properties

Density	6.02799 lb/gal
Density VOC	2.80484 lb/gal
% VOC	47.00000%
VOC Actual	2.80484 lb/gal
VOC Actual	336.10424 g/l
VOC Regulatory	2.80484 lb/gal
VOC Regulatory	336.10424 g/l

Appearance	N.A.
Odor Threshold	N.A.
Odor Description	N.A.
pH	10.75
Water Solubility	Emulsion
Flammability	Flashpoint below 73 °F
Flash Point Symbol	N.A.
Flash Point	N.A.

Viscosity	N.A.
Lower Explosion Level	1
Upper Explosion Level	12.8
Vapor Density	Slower than ether
Melting Point	N.A.
Freezing Point	N.A.
Low Boiling Point	0 °F
High Boiling Point	342 °F
Decomposition Pt	0
Auto Ignition Temp	N.A.
Evaporation Rate	Slower than ether

SECTION 10) STABILITY AND REACTIVITY

Stability:

Stable.

Conditions to Avoid:

High temperatures.

Incompatible Materials:

None known.

Hazardous Reactions/Polymerization:

Will not occur.

Hazardous Decomposition Products:

In fire, will decompose to carbon dioxide, carbon monoxide.

SECTION 11) TOXICOLOGICAL INFORMATION

Skin Corrosion/Irritation:

Overexposure will cause defatting of skin.

Causes mild skin irritation

Serious Eye Damage/Irritation:

Overexposure will cause redness and burning sensation.

Causes serious eye irritation

Carcinogenicity:

Suspected of causing cancer.

Germ Cell Mutagenicity:

No data available

Reproductive Toxicity:

Suspected of damaging fertility or the unborn child.

Respiratory/Skin Sensitization:

No data available

Specific Target Organ Toxicity - Single Exposure:

May cause drowsiness or dizziness

Specific Target Organ Toxicity - Repeated Exposure:

May cause damage to organs through prolonged or repeated exposure.

Aspiration Hazard:

May be fatal if swallowed and enters airways

Acute Toxicity:

Inhalation: effect of overexposure include irritation of respiratory tract, headache, dizziness, nausea, and loss of coordination. Extreme overexposure may result in unconsciousness and possibly death.

0000110-91-8 MORPHOLINE

LC50 (rat): 2250 ppm/duration not reported (male rat) (1,9); 2150 ppm/duration not reported (female rat) (1,9); greater than 22.2 mg/L (6240 ppm)/1-hr exposure (12)
LC50 (mouse): 1320 mg/m3 (371 ppm)/2-hr exposure (reported but cannot be confirmed) (1)
LD50 (oral, rat): 1600 mg/kg (7,12,13); 1050 mg/kg (3,7,9,12)
LD50 (oral, mouse): 525 mg/kg (16); 720 mg/kg (15)
LD50 (oral, guinea pig): 900 mg/kg (7,12,13)
LD50 (skin, rabbit): 0.5 mL/kg/24-hr (500 mg/kg/24-hr) (undiluted) (3,7,12,16)
Lethal dose (o

0000064-17-5 ETHYL ALCOHOL

LC50 (mouse): Approximately 21000 ppm (4-hour exposure); cited as 39 g/m3 (4-hour exposure) (1, unconfirmed)
LD50 (oral, rat): 7060 mg/kg (41); 10600 mg/kg (41); 13660 mg/kg (37)
LD50 (oral, mouse): 3450 mg/kg (1, unconfirmed)
LD50 (oral, guinea pig): 5560 mg/kg (37)

0000108-88-3 TOLUENE

LC50 (rat): 8800 ppm (4-hour exposure) (2)
LC50 (rat): 6000 ppm (6-hour exposure) (3)
LD50 (oral, rat): 2600 to 7500 mg/kg (3,5,11,17)
LD50 (oral, neonatal rat): less than 870 mg/kg (3)
LD50 (dermal, rabbit): 12,225 mg/kg (reported as 14.1 ml/kg) (1)

0000108-10-1 METHYL ISOBUTYL KETONE

LC50 (rat): 2000 - 4000 ppm (4-hour exposure) (1)
LD50 (oral, rat): 2,080 mg/kg (1)
LD50 (oral, male mouse): 1,200 mg/kg; cited as 1.5 mL/kg (3)
LD50 (dermal, rabbit): greater than 3000 mg/kg (9)

0000067-64-1 ACETONE

LC50 (male rat): 30000 ppm (4-hour exposure); cited as 71000 mg/m3 (4-hour exposure) (29)
LC50 (male mouse): 18600 ppm (4-hour exposure); cited as 44000 mg/m3 (4-hour exposure) (29)
LD50 (oral, female rat): 5800 mg/kg (24)
LD50 (oral, mature rat): 6700 mg/kg (cited as 8.5 mL/kg) (31)
LD50 (oral, newborn rat): 1750 mg/kg (cited as 2.2 mL/kg) (31)
LD50 (oral, mouse): 3000 mg/kg (32,unconfirmed)
LD50 (dermal, rabbit): Greater than 16000 mg/kg cited as 20 mL/kg) (30)

0000075-28-5 ISOBUTANE

LC50 (mouse, inhalation): 520,000 ppm (52%); 2-hour exposure.(4)

0000106-97-8 BUTANE

LC50 (mouse): 202000 ppm (481000 mg/m3) (4-hour exposure); cited as 680 mg/L (2-hour exposure) (9)
LC50 (rat): 276000 ppm (658000 mg/m3) (4-hour exposure); cited as 658 mg/L (4- hour exposure) (9)

Potential Health Effects - Miscellaneous

0000064-17-5 ETHYL ALCOHOL

The following medical conditions may be aggravated by exposure: liver disease. Tests in some laboratory animals indicate this compound may have embryotoxic activity. Tests in animals demonstrate reproductive toxicity. Ingestion may cause any of the following: stupor (central nervous system depression), gastrointestinal irritation. If absorbed through the skin, may be: harmful.

0000067-64-1 ACETONE

The following medical conditions may be aggravated by exposure: lung disease, eye disorders, skin disorders. Overexposure may cause damage to any of the following organs/systems: blood, central nervous system, eyes, kidneys, liver, respiratory system, skin.

0000108-10-1 METHYL ISOBUTYL KETONE

The following medical conditions may be aggravated by exposure: asthma, respiratory disease, eye disorders, pulmonary conditions, skin disorders. Repeated or prolonged skin contact may cause any of the following: dryness, cracking of the skin, defatting. Inhalation may cause any of the following: dizziness, stupor (central nervous system depression), drowsiness, respiratory tract irritation.

0000108-88-3 TOLUENE

Increased susceptibility to the effects of this material may be observed in people with preexisting disease of any of the following: central nervous system, kidneys, liver, respiratory system, skin. Can be absorbed through the skin in harmful amounts. Recurrent overexposure may result in liver and kidney injury. High airborne levels have produced irregular heart beats in animals and occasional palpitations in humans. Rats exposed to very high airborne levels have exhibited high frequency hearing deficits. The significance of this to man is unknown. WARNING: This chemical is known to the State of California to cause birth defects or other reproductive harm.

Chronic Exposure

0000108-88-3 TOLUENE

TERATOGENIC EFFECTS:Toluene has been Classified as POSSIBLE for humans.

SECTION 12) ECOLOGICAL INFORMATION

Toxicity:

Harmful to aquatic life with long lasting effects

Persistence and Degradability:

No data available.

Bio-Accumulative Potential:

No data available.

Mobility in Soil:

No data available.

Other Adverse Effects:

No data available.

Bio-accumulative Potential

0000067-64-1 ACETONE

Does not bioaccumulate

Persistence and Degradability

0000067-64-1 ACETONE

91% readily biodegradable, Method: OECD Test Guideline 301B

SECTION 13) DISPOSAL CONSIDERATIONS

Water Disposal:

Under RCRA, it is the responsibility of the user of the product, to determine a the time of disposal whether the product meets RCRA criteria for hazardous waste. Waste management should be in full compliance with federal, state, and local laws.

Empty containers retain product residue which may exhibit hazards of material, therefore do not pressurize, cut, glaze, weld or use for any other purposes. Return drums to reclamation centers for proper cleaning and reuse.

SECTION 14) TRANSPORT INFORMATION

U.S. DOT Information:

Consumer Commodity, ORM-D

IMDG Information:

Consumer Commodity, ORM-D

IATA Information:

Consumer Commodity, ORM-D

SECTION 15) REGULATORY INFORMATION

CAS	Chemical Name	% By Weight	Regulation List
0000108-88-3	TOLUENE	16% - 28%	CERCLA,HAPS,SARA312,SARA313,VOC,TSCA,RCRA,OH_TOX,ACGIH,CA_Prop65 - California Proposition 65,OSHA
0000067-64-1	ACETONE	8% - 20%	CERCLA,SARA312,TSCA,RCRA,ACGIH,OSHA
0000106-97-8	BUTANE	3% - 8%	SARA312,VOC,TSCA,ACGIH
0000108-10-1	METHYL ISOBUTYL KETONE	2% - 4%	CERCLA,HAPS,SARA312,SARA313,VOC,TSCA,RCRA,ACGIH,CA_Prop65 - California Proposition 65,OSHA
0000075-28-5	ISOBUTANE	1.0% - 4%	SARA312,VOC,TSCA,ACGIH
0000074-98-6	PROPANE	1.0% - 4%	SARA312,VOC,TSCA,ACGIH,OSHA
0000064-17-5	ETHYL ALCOHOL	1.0% - 2%	SARA312,VOC,TSCA,ACGIH,OSHA

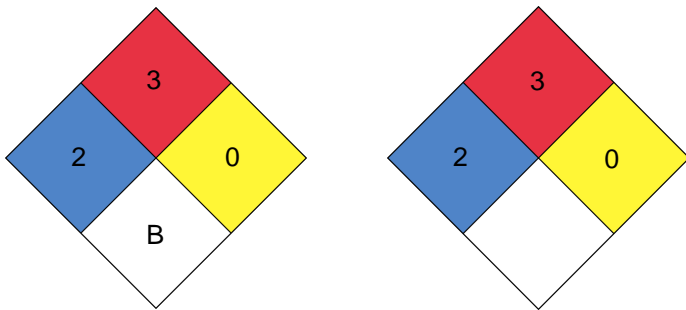
SECTION 16) OTHER INFORMATION

Glossary:

* There are points of differences between OSHA GHS and UN GHS. In 90% of the categories, they can be used interchangeably, but for the Skin Corrosion/Irritant Category and the Specific Target Organ Toxicity (Single and Repeated Exposure) Categories. In these cases, our system will say UN GHS.

ACGIH- American Conference of Governmental Industrial Hygienists; ANSI- American National Standards Institute; Canadian TDG- Canadian Transportation of Dangerous Goods; CAS- Chemical Abstract Service; Chemtrec- Chemical Transportation Emergency Center (US); CHIP- Chemical Hazard Information and Packaging; DSL- Domestic Substances List; EC- Equivalent Concentration; EH40 (UK)- HSE Guidance Note EH40 Occupational Exposure Limits; EPCRA- Emergency Planning and Community Right-To-Know Act; ESL- Effects screening levels; HMIS- Hazardous Material Information Service; LC- Lethal Concentration; LD- Lethal Dose; NFPA- National Fire Protection Association; OEL- Occupational Exposure Limits; OSHA- Occupational Safety and Health Administration, US Department of Labor; PEL- Permissible Exposure Limit; SARA (Title III)- Superfund Amendments and Reauthorization Act; SARA 313- Superfund Amendments and Reauthorization Act, Section 313; SCBA- Self-Contained Breathing Apparatus; STEL- Short Term Exposure Limit; TCEQ - Texas Commission on Environmental Quality; TLV- Threshold Limit Value; TSCA- Toxic Substances Control Act Public Law 94-469; TWA - Time Weighted Value; US DOT- US Department of Transportation; WHMIS- Workplace Hazardous Materials Information System.

HMIS



Chronic :



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