SAFETY DATA SHEET

NOTICE: Judgment may be based on indirect test and technical literature. The OSHA Hazard Communication Standard only requires SDS's and special labeling for materials defined as "HAZARDOUS"; see 29 CFR 1910.1200 (c). This document may be about a product which is NOT hazardous but is provided as information for our customers. See references for information.

SECTION 1. IDENTIFICATION

Product Identifier: GIR-4U Plus
Product Use: Ghost Image Remover
Manufactured by: Kor-Chem, Inc.
5800 Bucknell Drive
Atlanta, GA 30336

Product Identification # (PIF): 01500
Emergency Telephone #: 1-800-255-3924 ChemTel
General Information #: 404-344-9580
Date Prepared: July 12, 2023
Revision: 2

SECTION 2. HAZARD(S) IDENTIFICATION

GHS Hazard Codification:



Signal Word: DANGER

Hazard Statement	Category	Code	Hazard Class
Combustible Liquid	4	H227	Flammable Liquid
May be corrosive to metals	1	H290	Corrosive to Metals
Harmful if swallowed	4	H302	Acute Toxicity, Oral
May be harmful if swallowed and enters airways	2	H305	Aspiration Hazard
Causes severe burns and eye damage	1B	H314	Skin Corrosion
Causes serious eye damage	1	H318	Serious Eye Damage
May cause respiratory irritation	3	H335	STOT: SE, Respiratory Tract Irritation
May cause drowsiness or dizziness	3	H336	STOT, Single Exposure; Narcotic effects
Harmful to aquatic life	3	H402	Hazardous to the Aquatic Environment, Acute

Precautionary Measures:

Category	Code	Statement
Prevention	P210	Keep away from heat/sparks/open flames/hot surfaces – No smoking.
	P234	Keep only in original container.
	P260	Do not breathe fumes/mists/ vapors/sprays.
	P264	Wash thoroughly after handling.
	P270	Do not eat, drink or smoke when using this product.
	P271	Use only outdoors or in a well-ventilated area.
	P273	Avoid release to the environment.
	P280	Wear protective gloves/protective clothing/eye protection/face protection.
Response	P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician.
	P310+P321	Specific treatment: See section 4 First Aid Measures
	P303+P361+P353	IF ON SKIN (or hair): Remove immediately all contaminated clothing. Rinse skin with water/shower.
	P363	Wash contaminated clothing before reuse.
	P304+P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
	P310	Immediately call a POISON CENTER or doctor/physician.
	P321	Specific treatments: See section 4 First Aid Measures.
	P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to
	P310	do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.
	P370+P378	In case of fire: Use foam, dry chemical, carbon dioxide fire extinguishers or water spray for extinction.
	P390	Absorb spillage to prevent material damage.
Storage	P403+P233	Store in a well ventilated place. Keep container tightly closed.
	P235	Keep cool.
	P404	Store in a closed container.
	P405	Store locked up.
Disposal	P501	Dispose of contents/container in compliance with all Federal, State/Provincial and local laws and regulations.

Hazards not otherwise classified: Repeated or prolonged skin contact may cause dermatitis (skin drying). Mists/sprays are corrosive to respiratory tract and may cause pulmonary edema (shortness of breath/tightness of chest). Corrosive to digestive tract. Swallowing large amounts may cause central nervous system depression.

SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient	Common Name	CAS #	Concentration Range %
Dipropylene glycol methyl ether	Glycol ether DPM	34590-94-8	30 – 34
2-butyoxyethanol	Ethylene glycol monobutyl ether	111-76-2	20 – 24
Sodium hydroxide	Caustic soda	1310-73-2	8 – 12
Ethanolamine	MEA	141-43-5	3 – 7

SECTION 4. FIRST AID MEASURES

Eyes: Immediately flush well with water for at least 15 minutes, while holding eyelids open. Remove any contact lenses and continue rinsing. If irritation persists, repeat flushing. Seek medical attention immediately.
Skin: Wash with soap and water, then flush with water for 15 minutes. Remove contaminated clothing and launder before reuse. If irritation persists, seek medical attention.
Inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician. Treat symptomatically. If breathing is difficult, have a trained person administer oxygen. If respiration stops, have a trained person administer artificial respiration by way of pocket mask equipped with one-way valve or other proper respiratory device – Do NOT use mouth-to-mouth method if victim inhaled material. Get medical attention immediately. Pulmonary edema symptoms can be delayed up to 48 hours after exposure.
Ingestion: DO NOT INDUCE VOMITING. Rinse mouth. If vomiting occurs spontaneously, have victim lean forward with head down, rinse mouth and administer more water. Immediately transport victim to an emergency facility.

SECTION 5. FIRE-FIGHTING MEASURES

Flash Point: >145ºF (>63ºC)
Flammability: Class IIIA Combustible liquid
Extinguishing Media: Foam, dry chemical, carbon dioxide fire extinguishers, water fog or spray. Do not spray water directly on fire. Use water spray to cool containers.
Specific hazards arising from chemical: May react with chemically reactive metals such as aluminum, zinc, magnesium, copper, etc. to release hydrogen gas, which can form explosive mixtures with air. Vapors are heavier than air and may travel along the ground to an ignition source.
Hazardous combustion products: sodium and carbon oxide fumes.
Firefighting protective equipment: Wear a self-contained breathing apparatus with a full face piece operated in the positive pressure demand mode with appropriate turn-out gear and chemical resistant personal protective equipment.
Sensitivity to static discharge: This product is a Class IIIA Combustible.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Use personal protective equipment (Section 8). Keep away from heat/sparks/open flames/hot surfaces – No smoking. Ventilate area. Do not breathe fumes/mists/ vapors/sprays. Avoid release into the environment. Absorb spillage to prevent material damage. Wash thoroughly after handling.
For Small Spills: Avoid release to the environment. Spilled material may be slippery. Avoid dispersal of material and runoff into soil, waterways, drains and sewers. Neutralize with weak acidic material (citric acid), then absorb spill with vermiculite or other inert material, and then place in a container for chemical waste. Litmus paper may be used to confirm neutralization. Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Wash walking surfaces with water to reduce slipping hazard. Dispose of contaminated absorbent material in accordance with local, state and federal regulations.
For Large Spills: Large spills cannot occur due to packaging.

SECTION 7. HANDLING AND STORAGE

Handling: Wear personal protection equipment (Section 8). Use with adequate ventilation. Do not breathe fumes/mists/ vapors/sprays. Keep away from heat/sparks/open flames/hot surfaces – No smoking. Do not premix with other chemicals. Do not eat, drink or smoke in work areas. Wash thoroughly after handling. Avoid release into the environment.
Storage: Keep away from heat, flame, or sunlight – Keep cool. Keep from freezing. Keep container tightly closed when not in use. Store locked up. Store in a well-ventilated place. Keep only in original container. Protect from physical damage. Store away from strong acids, strong oxidizing agents, halogenated compounds, chlorates, chlorine, organic amines, prolonged contact with metals or alloys.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Ingredient	CAS #	OSHA/PEL	ACGIH/TLV	STEL
Glycol ether DPM	34590-94-8	100ppm	100ppm	150ppm
Sodium hydroxide	1310-73-2	2mg/m3	2mg/m3	Not established
2-butyoxyethanol	111-76-2	50ppm	20ppm	Not established
Ethanolamine	141-43-5	3 ppm	3 ppm	6 ppm

Engineering Controls: Provide adequate ventilation. Observe occupational exposure limits and keep the risk of exposure to a minimum.
Personal protective equipment:

Eye: Safety glasses with side shields or splash proof goggles and face shield.
Skin: Chemical resistant (impervious) gloves. Normal materials handling clothing and apron. Boots.
Respirator: Use NIOSH approved protection with organic vapor cartridge if PEL is exceeded, if mists/sprays are generated, or if vapors are causing irritation.
Other: Use only in a well ventilated area. Do not eat, drink or smoke while handling. Wash thoroughly after handling.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Colorless, clear liquid → Will separate, turn hazy, dark brown	Upper/Lower flammability limits	Not determined
Odor	Butyl	Vapor pressure	>0.1 mmHG @ 20ºC
Odor threshold	Not determined	Vapor density (Air = 1)	<1
pH at 1%	13.5 – 14	Relative density (water = 1.0)	1.050 g/ml
Melting point	Not determined	Solubility	Not determined
Freezing point	Not determined	Partition coefficient	Not determined
Boiling point	Not determined	Auto-ignition temperature	Not determined
Flash point	>145ºF (>63ºC)	Decomposition temperature	Not determined
Evaporation rate (n-butyl acetate=1)	<1	Viscosity	Not determined

Flammability	Class IIIA Combustible	VOC by weight	59%

SECTION 10. STABILITY AND REACTIVITY

Reactivity: May react with chemically reactive metals such as aluminum, zinc, magnesium, copper, etc. to release hydrogen gas, which can form explosive mixtures with air. Slowly attacks glass at room temperature. Corrosive to metals. Contact with acids will cause gelling and evolution of heat.
Chemical stability: Stable under normal, ambient temperature and conditions.
Possibility of hazardous reactions: Will not occur, but can induce hazardous polymerization of acetaldehyde, acrolein and acrylonitrile.
Conditions to avoid: Heat, flame and sparks. Keep from freezing. Do not mix with other chemicals
Incompatible materials: Avoid strong acids, strong oxidizing agents, halogenated compounds, chlorates, chlorine, organic amines, prolonged contact with metals or alloys.
Hazardous combustion products: Sodium and carbon oxide fumes.

SECTION 11. TOXICOLOGICAL INFORMATION

Toxicity:

Oral (LD50 Rat): Not determined
Dermal (LD50 Rabbit): Not determined
Inhalation (LC50 Rat): Not determined

Skin corrosion/irritation: Corrosive to skin. Symptoms may include burns, ulceration and scarring. Repeated or prolonged skin contact may cause dermatitis (skin drying). Sodium hydroxide solutions as weak as 0.12% have damaged healthy skin within 1 hour.
Serious eye damage/irritation: Corrosive to eyes. Symptoms may include severe irritation, disintegration, scarring and clouding.
Respiratory or skin sensitization: Mists are corrosive to respiratory tract and may cause pulmonary edema (shortness of breath and tightness of chest). High vapor concentrations may cause irritation to respiratory tract, and central nervous system depression. Symptoms may include headache, dizziness, nausea, euphoria, drowsiness and fatigue.
Germ cell mutagenicity: No data available
Carcinocenicity: NTP/IARC/OSHA Carcinogen: No
Reproductive toxicity: Not available
STOT-single exposure: May cause respiratory irritation and may cause drowsiness and dizziness.
STOT-repeated exposure: Not classified
Aspiration hazard: Lung aspiration may result in chemical pneumonitis, pulmonary edema, damage to lung tissue, and in extreme cases death.
Ingestion: Corrosive to digestive tract. May cause severe pain, burning, vomiting and diarrhea. Swallowing large amounts may also cause central nervous system depression.
Likely routes of exposure: Eyes, skin and inhalation
Interactive effects: Not available

SECTION 12. ECOLOGICAL INFORMATION

Toxicity:

96h LC-50 (fish): 80 mg/L
48h EC-50 (invertebrates): 60 mg/L
96h EC-50 (algae): 61 mg/L

Persistence and degradability: Not determined.
Bioaccumulative potential: This material is not expected to bioaccumulate significantly.
Mobility in soil: Soil mobility not determined.
Other adverse effects: Harmful to aquatic life – avoid release to the environment.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal of Wastes: Do not dump into sewers, on the ground or into any waterways. All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations. Harmful to aquatic life – avoid release to the environment.
Contaminated Packaging: Since emptied containers retain product residue, follow label warnings even after container is emptied. Do not cut, drill, grind or weld on or near the container.
RCRA: A waste containing this product may have the RCRA hazardous waste no. D002 (Corrosive) (40 CFR 261.22).

SECTION 14. TRANSPORT INFORMATION

UN/ID No.: UN1760
Proper Shipping Name: Corrosive Liquids, n.o.s., (Sodium hydroxide, Ethanolamine)
Hazard Class: 8
Packing Group: II

Special Provisions (49 CFR 172.102): B2, IB2, T11, TP2, TP27
Exemptions (49 CFR 173.***): 154
Non-bulk packaging (49 CFR 173.***): 202
Bulk packaging (49 CFR 173.***): 242
Quantity Limitations:

Passenger aircraft/ rail (49 CFR 173.27): 1L
Cargo aircraft only (49 CFR 175.75): 30L

Vessel Stowage:

Location: B
Other: 40

Marine Pollutant (IMDG Code): This product does not contain any ingredients listed in Annex B to 49 CFR 172.101 that exceed 1% in concentration.

Transportation in Bulk (IMDG-Annex II of MARPOL 73/78 and IBC Code): This product is not offered for bulk transport overseas

SECTION 15. REGULATORY INFORMATION

TSCA: All components of this product are on the TSCA inventory or are exempt from TSCA inventory requirements under 40 CFR 720.30.
SARA Section 302: The components of this product are either not regulated or regulated, but present in negligible concentrations.
SARA TITLE III Section 311/312:

Immediate (Acute) Health	Yes	Fire Hazard	Yes
Delayed (Chronic) Health	No	Reactive Hazard	No

SARA Title 313: This material contains the following chemical components with known CAS numbers subject to reporting requirements (40 CFR 372): Ethylene Glycol Monobutyl Ether CAS# 111-76-2, % by wt. = 22%, Ethanolamine 141-43-5 percent by wt. = 5%.
CERCLA: Sodium hydroxide (CAS# 1310-58-3) has a reportable quantity of 1,000 lbs. at 100% concentration, however, this product is not considered a Hazardous Substance since the quantity does not equal or exceed the RQ in one package (49 CFR 171.8, definition of "Hazardous Substance").
United States Right-To-Know: Glycol ether DPM CAS #34590-94-8 – New Jersey, Massachusetts, Pennsylvania. Ethylene Glycol Monobutyl Ether CAS# 111-76-2 - California, Massachusetts, Minnesota, New Jersey & Pennsylvania. Sodium hydroxide (CAS #1310-58-3) - Massachusetts, Minnesota, New Jersey, Pennsylvania, Rhode Island. Ethanolamine CAS# 141-43-5 – New Jersey, Massachusetts, Pennsylvania.
Proposition 65: This material contains the following ingredients for which the state of California has found to cause birth defects or other reproductive harm: Ethylene glycol CAS# 107-21-1.
RCRA: A waste containing this product may have the RCRA hazardous waste no. D002 (Corrosive) (40 CFR 261.22).

SECTION 16. OTHER INFORMATION

Date Prepared: July 12, 2023
Hazard Ratings (HMIS): Health 3, Flammability 2, Reactivity 1 (Scale 0 – 4). Personal Protection Rating to be supplied by user based on use conditions.
Carefully read all instructions on label before handling this product.
Keep out of reach of children.
"FOR INDUSTRIAL USE ONLY"

Abbreviation	Full Name/Explanation
ACGIH	American Conference of Government Industrial Hygienists
CAS	Chemical Abstract Service
CERCLA	Comprehensive Environmental Response Compensation and Liability Act
CNS	Central Nervous System
CFR	Code of Federal Regulations
DOT	Department of Transportation
EC	Effective Concentration
GHS	Globally Harmonized System
HMIS	Hazardous Material Information System
LC	Lethal Concentration
LD	Lethal Dose
NA	Not Applicable
ND	Not Determined
NE	Not Established
NIOSH	National Institute for Occupational Safety and Health
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
RCRA	Resource Conservation Recovery Act
SARA	Superfund Amendments and Reauthorization Act
STEL	Short-Term Exposure Limit
STOT	Specific Target Organ Toxicity
TLV	Threshold Limit Value
TSCA	Toxic Substance Control Act
VOC	Volatile Organic Compounds

The information contained herein is based on data available to us and is believed to be correct. We make no warranty, however, expressed or implied regarding the accuracy of these data or the results obtained from the use thereof.
Regulatory Standards: DOT TITLE 49, Code of Federal Regulations 172.101: Parts 100 to 177, Revised 10/1/92.
SUPER FUND AMENDMENTS REAUTHORIZATION ACT OF 1986, TITLE III TOXIC SUBSTANCE CONTROL ACT LIST (TSCA)- INGREDIENTS LISTED. REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES NATIONAL TOXICOLOGICAL PROGRAM (NTP) REPORT OF CARCINOGENS INTERNATIONAL AGENCY FOR RESEARCH ON CANCER (IARC) MONOGRAPHS, OCCUPATIONAL SAFETY & HEALTH REGULATIONS. CODE OF FED. REGS. FOOD & DRUG, 21 PARTS 170 to 199, Revised 4/1/91, 173.310.