



MATERIAL SAFETY DATA SHEET (MSDS)

Issuing Date : Feb 16, 2014

I. Identification of the Material and the Company

- Product Name : Gel Remover
- Recommendations and Restrictions on Use : Do NOT USE except the Purpose of Removal
- Manufacturer Information :
 - 1) Company Name : AG Co., Ltd.
 - 2) Address : 6F, Hwangeum Town, 191, Sajik-ro, Chungju-si, Chungcheongbuk-do
 - 3) Telephone : 82-31-741-8977

II. Risk and Hazard Identification

- Classification of Risk and Hazard
 - Skin Corrosion / Irritation : Category 1
 - Skin Sensitization : Category 1
 - Specific Target Organ Toxicity (Single Exposure) : Category 3 (Respiratory Irritation)
- Warning Label Elements including Precautionary Statement(s) :
 - Pictogram  
 - Signal Word : Warning
 - Risk-Hazard Statement(s) :
 - If swallowed, harmful
 - Cause irritaion according to User's Condition.
 - May Cause Respiratory Irritation.
 - Precautionary Statement(s)
 - [Prevention]
 - Get Instruction Manual before Use.
 - Do Not use before Read and Understand All Safety Precautions.
 - Avoid Dust, Fumes, Gas, Mist Vapours and Inhalation of Spray.
 - Wash Hands thoroughly After Using.
 - If feel uncomfortable in swallowing, Consult a Physician.
 - [General Action]
 - If feel uncomfortable : Consult a Physician.
 - Keep Container Tightly closed in well-ventilated place.
 - [Storage]
 - Keep Container Tightly closed in well-ventilated place.
 - Store Container Tightly Closed.
 - [Disposal]
 - Dispose of Container according to the Specified Indication on Relevant Laws.
- Other Risk • Hazards Not included Classification of Risk • Hazards (NFTA)

Health	1
Fire	2
Reactivity	0

III. Composition/Information on Ingredients

Ingredient	CAS NO.	%wt
Gamma Butyrolactone	96-48-0	85.0%
Dimethylketone	67-64-1	3.0%
Ethyl alcohol	64-17-5	2.0%
Cellulose	9004-64-2	10.0%

IV. First Aid measures

- In case of Eye Contact : Rinse thoroughly with Plenty of Water and Soap for at least 15 minutes and Consult a Physician.
- In case of Skin Contact : Take off Contaminated Clothing and Shoes then, Wash off with Soap and plenty of water. Consult a Physician. Wash and Dry thoroughly Contaminated Clothing and Shoes before Use again
- If Inhaled : Move Person into Fresh Air. If breathing is difficult, give Oxygen. If not breathing, give artificial Respiration. Consult a Physician.
- If Swallowed : Call to Fire Emergency Center or Consult a Physician Immediately. Do NOT induce vomiting and give drinks to an unconscious person. If Vomiting, Let down Head than Hips to prevent from an obstruction in the airway. If the person is unconscious, Turn the head to the Sideways. Consult a Physician.
- Other Medical Attention : Medical Personnel has to be aware of Materials, then take Action

V. Firefighting Measures

- Suitable Extinguishing Media : Particulate Powder Extinguishing Agent, Carbon, Water, Regular Foam if necessary, Alcohol-resistant Foam
- Special Hazards arising from the Chemical (Toxic substances generated during Combustion) : Cyanides, Carbon Oxides, Nitrogen
- Protective Equipment for Firefighters and Precautions : If Possible and no Hazard(s), move Container from Fire Area. Be careful of Scattering Spilled Materials in a High-Pressure Stream of Water. Build a Dike for further Handling. Use Extinguishing Agent adapted to Surrounding Fire. Avoid Inhalation of the Substance or product of Combustion. Upwind and avoid Lowland.

Auto-Ignition Temperature (°C)	No Data
Flash Point(°C)	100
Lower Explosive Limits(%)	No Data
Upper Explosive Limits (%)	No Data
Fire Rating (OSHA)	No Data

VI. Accidental Release Measures

- Precautions and Protective Equipment required to protect Human Body : Keep unnecessary people away,

isolate Hazard Area and Deny Entry.

- Precautions required to protect Environment : Keep out of Water Supplies and Sewers. Dispose with a suitable container for disposal of spilled material.
- Purification or Removal Method : if Large-Spilled, make Channel from liquid spills away. When powder is spilled, cover with a plastic sheet to prevent spreading and keep dry state. When Small Spilled, Clean contaminated areas with plenty of water. When Small Spilled, Absorb with Sand or Non-combustible material and put in the container. Put leaked materials in a Clean and Dry Container by Clean Shovel and Move it from leaked area after loosely closing the container.

VII. Handling and Storage

- Safe Handling Method : Use only at Well-ventilated Place. Minimize generation and accumulation of dust. Avoid inhalation of dust, steam or gas. Avoid contact with Eye, Skin and Clothing. Put Container tightly Closed.
- Safe Storage Method : Store and Handle according to Applicable Laws and Regulations. Separate from materials prohibited mixture. Store in a Airtight Container. Store in a Cool and Dry place. Store in a well-ventilated area. Separate from strong Oxidizing Agents, Strong Alkalis, Amines and Alkalis

VIII. Exposure Controls / Personal Protection

- Engineering Controls : Use Local Ventilation or Ventilation that process is Closed. Check if it is Applicable Exposure Limits. In Case that dust, fumes or mist are occurred when operating, ventilate so that Air Pollution is to be maintained below the Exposure Limit. Install Washing Equipment and shower Facility.
- Personal Protective Equipment :
 - 1) Respiratory Protection : under conditions of frequent use or heavy exposure, need Respiratory Protection. Respiratory Protection is classified from Min. Concentration to Max. Concentration. Consider Warning Properties before Use.
Air Supplied Respirator (Pressure-Demand Type, Full-Face Type)
Air Respirator (Pressure-Demand Type, Full-Face Type)
If there is a Danger of Imminent to Unknown Concentration, Life or Health
Air Supplied Respirator (Multiple Airline Mask)
Air Respirator (Full-Face Type)
 - 2) Eye Protection : Wear Safety Glasses with face Shield protected from Missile or Noxious Liquid.
Install Washing Equipment and Emergency Washing Equipment (Shower-Type) near Workplace.
 - 3) Hand Protection : Wear appropriate Chemical Resistant Gloves.
 - 4) Body protection : Wear appropriate Chemical Resistant Clothing.

IX. Physical and Chemical Properties

Physical State	Liquid
Appearance	Clear
Odour	Pungent
Molecular Weight	86.1
Molecular Formula	C ₄ H ₆ O ₂
Boiling Point (°C)	204°C

Melting Point (°C)	-44°C
Freezing Point (°C)	- 114°C
Vapour Pressure	57.26
Vapour Density (Air=1)	0.7864
Specific Gravity (Water=1)	1.1
Water Solubility	No Data Available
Hydrogen Ion Concentration(ph)	No Data Available
Volatile (%)	No Data Available
Odour Detection Threshold	No Data Available
Evaporation Rate	No Data Available
Octanol-Water Partition Coefficient	No Data Available

X. Stability and Reactivity

Chemical Stability and the possibility of Hazardous Reactions	May Polymerized, Avoid Contact with the Water
Conditions to Avoid	Heat, Flames, Sparks and other sources of Ignition
Materials to Avoid	Combustibility, Reducing Substance
Hazarous Decomposition Products	No Data
Polimerization	No Data

XI. Toxicological Information

	Butyrolactone	Dimethylketone	Ethyl alcohol
Irritaiton Data	Irritation on Eye and skin	No Data	Irritation on Eye and skin
Toxicity	No Data	No Data	No Data
Carcinogenicity	Not Applicable	No Data	No Data

XII. Environmental Consequence

Ecotoxicity	Fish	No Data
	Crustaceans	No Data
	Birds	No Data
Persistence and Degradability	Persistence	No Data
	Degradability	No Data
Bioaccumulative Potential	Bioaccumulation	No Data
	Biodegradability	No Data
Mobility in Soil		No Data
Other Adverse Effects		No Data

XIII. Disposal Considerations

- Methods of Disposal : Remove the liquid from the Container. For Liquid, disuse by Companies designated Waste. For the Container, disuse and sorting to Plastic.
- Disposal Considerations : Follow Precautions on Handling and Storage, and follow General Precautions as to Flammable Liquids

XIV. Transport Information

- UN Number : U.S. Department of Transportation (Regulation) : No Classification Assigned
- UN proper Shipping Name : Not Applicable
- Transport Hazard Class : Not Applicable
- Packaging Group : Not Applicable
- Environmental Hazards : No Data
- Special Precaution for User :
 - 1) Fire Emergency Response : refer to Firefighting Measures on V Section
 - 2) Spill Emergency Response : refer to Accidental Release Measures on VI Section.

XV. Regulatory Information

Occupation Safety and Health Acts	Not Applicable
Toxic Chemicals Control Act	Not Applicable
Safety Control of Dangerous Substances Act	Not Applicable
Wates Control Act	Not Applicable

XVI. Further Information

- The Source of Data : Korea Occupational Safety and Health Agency
- First Created Date : Feb 16, 2014
- Etc. : This Material Safety Data Sheet is absolutely prohibited to external purpose except use provided by AG Co., Ltd. Please conjugate only for the safety and health of workers when they use the product.