



Material Safety Data Sheet

*Hazard Codes:

Health	1
Flammability	0
Reactivity	0



Gardol® 4000

Revision Date: 6 October 2010

Print Date: 13 October 2010

SECTION 1 - IDENTIFICATION

Product Name: Gardol® 4000
Chemical Family: Aqueous Polyamine Solution

MANUFACTURER:
 Apollo Chemical
 2001 Willow Springs Lane
 Burlington, NC 27215
 Phone : (336)226-1161
 Fax : (336)570-6246

Formula: Proprietary. In the event of a medical emergency, composition information will be provided to a Physician or Nurse.

EMERGENCY CONTACT INFORMATION:
 CHEMTREC:
 Within USA & Canada (800)424-9300
 Outside USA & Canada (703)527-3887
 Apollo Chemical:
 (8:00 AM – 5:00 PM EST) (336)226-1161

SECTION 2 – HAZARD(S) IDENTIFICATION

Hazard Statement(s)

Route of Entry:	Absorption, Inhalation, Ingestion
Inhalation:	Not expected to be a relevant route of exposure. However, high vapor or aerosol mist concentrations may be irritating to the nose, throat and upper respiratory tract.
Eye Contact:	Material is irritating to the eyes.
Skin Contact:	Prolonged or repeated contact with the undiluted product may be irritating to the skin.
Ingestion:	Ingestion may cause gastrointestinal irritation. Symptoms may include abdominal discomfort, nausea, vomiting and diarrhea.
Target Organs:	Eyes, Skin
IARC / NTP / OSHA:	No ingredients listed as potential or known carcinogen

Precautionary statement(s)

Do not take internally. Prevent eating, drinking, tobacco usage and cosmetic application in areas where there is a potential for exposure to the material. Avoid contact with the eyes, skin and clothing. Avoid breathing dust, vapor or mist. Where appropriate chemical



Material Safety Data Sheet

*Hazard Codes:

Health	1
Flammability	0
Reactivity	0



Gardol® 4000

Revision Date: 6 October 2010

Print Date: 13 October 2010

protective clothing and equipment. Always wash thoroughly after handling. Launder contaminate clothing before reuse. Avoid release to the environment.

HMIS® II-rating (scale 0 – 4): Health = 1, Flammability = 0, Reactivity = 0

*HMIS Hazard ratings involve data interpretations that may vary from company to company. They are intended only for rapid, general identification of the magnitude of the specific hazard. To deal adequately with the safe handling of this material, consider all available information.

*Hazard Rating Scale: Minimal = 0, Slight = 1, Moderate = 2, Serious = 3, Severe = 4

SECTION 3 – COMPOSITION / INFORMATION ON INGREDIENTS

CAS Number	Component	Percent
------------	-----------	---------

Proprietary.....	Cationic Polyamine	
------------------	--------------------	--

The chemical identity of some or all components present is confidential business information (Trade Secret) and is being withheld as permitted by 29CFR1919.1200 (i)

This MSDS contains valuable information critical to the safe handling and proper use of this product. This MSDS should be retained and available for employees and other users of this product.

SECTION 4 – FIRST-AID MEASURES

Inhalation: If respiratory symptoms develop, move victim from contaminated area to fresh air. If not breathing, apply artificial respiration, preferably by mechanical means. Avoid direct mouth to mouth resuscitation. If symptoms persist, obtain medical attention immediately.

Skin Contact: Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing. Wash with plenty of soap and water including hair and under fingernails. Do not apply any medicated agents except on the advice from a physician. Get medical attention if needed.

Eye Contact: Immediately flush eyes with large amounts of running water for at least 15 minutes, holding eyelids apart to facilitate irrigation of the entire surfact of the eyes and lids. Do not apply any medicated agents except on the advice of a physician. Get immediate medical attention.

Ingestion: DO NOT INDUCE VOMITING OR ADMINISTER EMETICS EXCEPT ON THE ADVICE FROM A PHYSICIAN. If victim is fully conscious, give 2 - 3 glasses of water to drink. Contact a physician, hospital or Poison Control Center immediately. Do not give anything by mouth to an unconscious person. To ensure airway is open, position with head lower than body and transport immediately to a medical facility.



Material Safety Data Sheet

*Hazard Codes:

Health	1
Flammability	0
Reactivity	0

Gardol® 4000

Revision Date: 6 October 2010

Print Date: 13 October 2010

SECTION 5 – FIRE-FIGHTING MEASURES

Flash Point (° F):	No test data available
Flash Point Method:	Not Applicable
Autoignition Temperature (° F):	No test data available
Lower Explosion Limit (%):	No test data available
Upper Explosion Limit (%):	No test data available
Flammability Classification:	Not applicable
Extinguishing Media:	Dry powder, foam, carbon dioxide, water or water mist. Wear self contained breathing apparatus and other protective clothing. Evacuate nonessential personnel from the area to prevent human exposure to fire, smoke, fumes or products of combustion.
Special Fire Fighting Procedures:	Not Applicable
Unusual Fire and Explosion Hazards:	Not Applicable

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Small Spill:	Wear chemical safety glasses with side shields or chemical goggles and heavy rubber gloves. Absorb in vermiculite, sand, floor sweeping compound or other absorbent material. Place in container for chemical waste. Do not discharge to drains or surface water. Solutions are extremely slippery when spilled.
Large Spill:	Remove unprotected personnel from spill area until cleanup is complete. Stop spill at source and dike area to prevent spreading. Collect excess material and transfer to chemical waste containers. Do not discharge to drains or surface water. Solutions are extremely slippery when spilled.
Waste disposal:	Dispose of product in an approved chemical waste landfill or incinerate in accordance with applicable Federal, State and Local regulations.



Material Safety Data Sheet

*Hazard Codes:

Health	1
Flammability	0
Reactivity	0



Gardol® 4000

Revision Date: 6 October 2010

Print Date: 13 October 2010

SECTION 7 – HANDLING AND STORAGE

Handling Precautions:

Do not take internally. Prevent eating, drinking, tobacco usage and cosmetic application in areas where there is a potential for exposure to the material. Avoid contact with the eyes, skin and clothing. Avoid breathing dust, vapor or mist. Where appropriate chemical protective clothing and equipment. Always wash thoroughly after handling. Launder contaminated clothing before reuse. Avoid release to the environment. Open and handle the containers with care.

Storage Requirements:

Avoid areas of excessive heat. Keep from freezing. Keep container closed when not in use. Store only in approved containers and in a well-ventilated area away from incompatible materials.

SECTION 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls:

Use Mechanical (general) ventilation for storage areas. All ventilation should be designed in accordance with OSHA standard (29 CFR 1910.94).

Protective Equipment:

HMIS PPE: X Ask supervisor or safety specialist for handling instructions

Eye and Skin Protections: Wear gloves that are chemically resistant to the material. Wear approved eye protection

Respiratory Protections: Where there is a potential for airborne exposures, wear NIOSH approved respiratory protections.

Other Protective Equipment: A deluge safety shower and eye wash station must be located near the work area.

Hygienic Practices: Avoid contact with eyes, skin and clothing. Avoid inhalation of contaminant. Wash thoroughly after handling. Do not eat, drink, use tobacco products, chew gum or apply cosmetics in area where there is a potential for exposure to the material.

Each Company should review the protective equipment and engineering controls based on individual needs and situations to insure the safe handling of each product.



Material Safety Data Sheet

*Hazard Codes:

Health	1
Flammability	0
Reactivity	0



Gardol® 4000

Revision Date: 6 October 2010

Print Date: 13 October 2010

OCCUPATIONAL EXPOSURE VALUES:

Chemical name (CAS #) ACGIH (TWA) ACGIH (STEL) OSHA (TWA) OSHA (STEL)

Notes: Not Applicable

Notations: (S) = Skin, (C) = Ceiling

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear, Light Amber	Boiling Point (° C):	> 212 ° F
Physical State:	Liquid	Melting Point (° C):	Not Determined
Odor:	Mild	Water Solubility:	Soluble
(as is) pH:	5.0 – 6.0	Specific Gravity (H₂O = 1):	1.2
Vapor Pressure:	Not Determined	Density (lbs / gal):	9.6
Vapor Density:	Estimated heavier than air	Percent Solids (%):	50
VOC (%):	Not Determined	Charge Nature:	Slightly Cationic
Evaporation Rate:	Slower than Butyl Acetate	Molecular Weight:	Not Applicable / Mixture
Octanol / Water	Not Available	Viscosity:	Not Determined
Partition Coefficient:		Autoignition Temperature(° F):	No test data available (see section 5)
Flash Point (° F):	No test data available (see section 5)	Upper Explosion Limit (%):	No test data available (see section 5)
Lower Explosion Limit (%):	No test data available (see section 5)		

SECTION 10 – STABILITY AND REACTIVITY

Stability :	This product is stable under normal conditions
Conditions to Avoid :	Avoid areas of excessive heat. Avoid Freezing Temperatures.



Material Safety Data Sheet

Gardol® 4000

*Hazard Codes:

Health	1
Flammability	0
Reactivity	0

Revision Date: 6 October 2010

Print Date: 13 October 2010

Materials to Avoid (Incompatibilities) :

Strong oxidizing agents. Concentrated Acids and Bases.

Hazardous Decomposition products :

Combustion may produce oxides of Carbon and Nitrogen.

Hazardous Polymerization :

Is not expected to occur.

SECTION 11 – TOXICOLOGICAL INFORMATION

Caution must be exercised through the prudent use of protective equipment and handling procedures to minimize exposure.

Chemical Name	LC50	Species	LD50 Oral	Species	LD50 Skin	Species
	Inhalation					

No component(s) listed

Notes: No product animal LD50 or LC50 information is available

IARC / NTP / OSHA: No ingredients listed as potential or known carcinogen.

SECTION 12 – ECOLOGICAL INFORMATION

General: No product information is available

Notes: Not Applicable

SECTION 13 – DISPOSAL CONSIDERATIONS

Empty Container: "Empty" containers retain product residue (liquid and/or vapor) and can be hazardous. Empty drums should be completely drained, properly bunged and properly returned to a drum reconditioner or properly disposed of. Dispose of in accordance with applicable Federal, State and Local regulations.

Waste Disposal: Dispose of drum, product or rinsing in accordance with applicable Federal, State and Local regulations.



Material Safety Data Sheet

*Hazard Codes:

Health	1
Flammability	0
Reactivity	0



Gardol® 4000

Revision Date: 6 October 2010

Print Date: 13 October 2010

SECTION 14 - TRANSPORT INFORMATION

UNITED STATES DOT GROUND (49 CFR):

Proper Shipping Name: Non-regulated

Technical Name:

Hazard Class:

ID Number:

Packaging Group:

ERG Guide:

Reportable Quantity (RQ):

Other Information:

WATER TRANSPORTATION (IMO / IMDG):

Proper Shipping Name: Non-regulated

Technical Name:

Hazard Class:

ID Number:

Packaging Group:

EmS Guide:

Reportable Quantity (RQ):

Other Information:

AIR TRANSPORTATION (ICAO / IATA):

Proper Shipping Name: Non-regulated

Technical Name:

Hazard Class:

ID Number:

Packaging Group:



Material Safety Data Sheet

*Hazard Codes:

Health	1
Flammability	0
Reactivity	0



Gardol® 4000

Revision Date: 6 October 2010

Print Date: 13 October 2010

Reportable Quantity (RQ):

Other Information:

The transport information provided represents the regulatory transport classification of the product without consideration to packaging, quantity, or modal restrictions and exceptions. It is the user's responsibility to determine the appropriate packaging and modal requirements and/or limitations for the product quantity being shipped.

SECTION 15 - REGULATORY INFORMATION

US FEDERAL REGULATIONS

Toxic Substances Control Act (TSCA)

All components of this product are listed on the TSCA Inventory or are exempt from TSCA Inventory requirements.

TSCA 12(b) Export Notification Rule

The following component(s) of this product are listed under the TSCA 12(b) Export Notification rule and are present at levels which could require reporting :

No component(s) listed

CERCLA, Sections 102a / 103

If the reportable quantity of this product is accidentally spilled, the incident is subject to the provisions of the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) and must be reported to the National Response Center by calling (800)424-8802.

The following component(s) are specifically listed as hazardous substances in 40 CFR 302.4 and are present at levels which could require reporting :

No component(s) listed

SARA, section 302 requires emergency planning based on Threshold Planning Quantities (TPQ's) and release reporting based on reportable quantities (RQ's)

The following components of this product are listed as extremely hazardous substances in 40 CFR Part 355.30 and are present at levels which could require reporting and emergency planning :

No component(s) listed

SARA, Section 304 requires emergency planning based on Threshold Planning Quantities (TPQ's) and release reporting based on reportable Quantities (RQ's)

The following components of this product are present at levels which could require reporting and emergency planning under 40 CFR Part 355.40 :



Material Safety Data Sheet

*Hazard Codes:

Health	1
Flammability	0
Reactivity	0



Gardol® 4000

Revision Date: 6 October 2010

Print Date: 13 October 2010

No component(s) listed

EPA Hazard Categories

Immediate Health Hazard :Yes

Delayed Hazard :No

Fire Hazard :No

Reactive Hazard :No

Sudden Release of Pressure Hazard :No

True = « Yes », False = « No »

SARA, Section 313 requires submission of annual reports of release of toxic chemicals

The following components of this product are listed as toxic chemicals in 40 CFR 372.65 and are present at levels which could require reporting and customer notification under Sections 313 and 40 CFR Part 372 :

No component(s) listed

RCRA Status :

Discarded product, as sold, would Not be considered a RCRA Hazardous Waste. Under RCRA, it is the responsibility of the user of the product to determine at the time of disposal, whether the product meets RCRA criteria for hazardous waste. This is because product uses, transformations, mixtures, processes, etc. may render the resulting materials hazardous.

STATE REGULATIONS

The following components of this product are at levels which could require identification in the MSDS

California Proposition 65 :	This product contains levels of listed substances, which the State of California has found to cause cancer, birth defects or other reproductive harm, which would require a warning under the statute. Epichlorohydrin (106-89-8, estimated < 10 ppm)
State Right to Know :	No Component(s) listed
Other :	Not applicable

- MA : Massachusetts Hazardous Substance List
- PA : Pennsylvania Right to know list of Hazardous Substances
- NJ : New Jersey Hazardous Substance list
- HAP : Hazardous Air Pollutant
- TAP : Toxic Air Pollutants



Material Safety Data Sheet

*Hazard Codes:

Health	1
Flammability	0
Reactivity	0



Gardol® 4000

Revision Date: 6 October 2010

Print Date: 13 October 2010

INTERNATIONAL REGULATIONS

COUNTRY	REGULATORY LIST	NOTIFICATION
Canada	DSL / NDSL	DSL
EU	EINECS / ELINCS / NLP	EINECS
Australia	AICS	Listed
Japan	ENCS	One or more components not listed
China	CEPA	Listed
South Korea	ECL	Listed
Philippines	PICCS	Listed
New Zealand	NZIoC	Listed

OTHER

Canadian WHMIS Classification :	Not Determined
Canadian Ingredient Disclosure List :	No Component(s) listed
German Consumer Protection Act :	Approved
Oeko – Tex Standard 100 :	Approved

SECTION 16 – ADDITIONAL INFORMATION

Reason for revision: General review and format change

Disclaimer: All information, recommendations and suggestions appearing herein concerning our product are based upon tests and data believed to be reliable. However, it is the user's responsibility to determine the safety, toxicity and suitability for their own use of the product described herein. Since the actual use by others is beyond our control, no guarantee, expressed or implied, is made by **Mount Vernon Chemicals, LLC.** as to the effects of such use, the results to be obtained, or the safety and toxicity of the product nor does **Mount Vernon Chemicals, LLC.** assume any liability arising out of the use by others, or the product referred to herein. The information herein is not to be construed as absolutely complete since additional information may be necessary or desirable when particular or exceptional conditions or circumstances exist or because of applicable laws or government regulations.

END OF MSDS DOCUMENT