

Vista Chemical Company

15990 N. Barker's Landing Rd.
Post Office Box 19029

Houston, Texas 77224
Phone (713) 531-3200

JJH: ~~401~~: ~~180~~ RF
XF: Customer Response

September 11, 1984

VISTA

Mr. Gary Burling
Asst. Purchasing Agent
The Lubrizol Corporation
29400 Lakeland Blvd.
Wickliffe, OH 44092

Dear Gary:

Enclosed is a Material Safety Data Sheet for Vista Chemical's Diphenylalkane. In Section 5 of the MSDS we have listed the acute toxicity testing results which you requested. We have not done any long term testing to determine the mutagenic or carcinogenic properties of this product.

Please feel free to contact me if you have further questions regarding this toxicity data.

Sincerely,



Thomas G. Grumbles, C.I.H.
Director, Industrial Hygiene

ajo

Enclosure

cc Dave Buell

VVV 000016294

JH: ~~RF~~ TGG: ~~RF~~ RF
XF: Tom

TO: Distribution

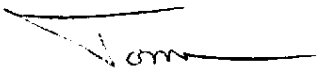
FROM: T. G. Grumbles
DATE: September 11, 1984

Interoffice
Communication

SUBJ: VISTA COMMENTS TO THE FDA: GRAS REVOCATION OF BYPRODUCT
MURIATIC ACID

VISTA

Enclosed is a draft of the comments we will send to FDA regarding the agency's proposal to revoke the GRAS status of all byproduct muriatic acid. Please review and return any comments or changes to me or Betsy Myer by September 19. We need to have the final comments in the mail by September 21.


Thomas G. Grumbles

ajo

Enclosure

cc Tom Huffman, Bob Klein, Mike Fortier, R. D. Gamblin

Distribution: Jim Gibson, Kyle Resh, Carl Kerfoot, Betsy Myer
Wayne Hilger, Nelson Borys, Bill McClain

VVV 000016295

September 11, 1984

D R A F T

Dockets Management Branch (HFA-305)
Food and Drug Administration
Room 4-62
5600 Fishers Lane
Rockville, MD 20857

Dear Sirs:

Vista Chemical Company (formerly Conoco Chemicals Company) is a major producer of byproduct muriatic acid in the NALKYLENE Detergent Alkylate process at its plant in Baltimore, Maryland. Vista appreciates the opportunity to comment on the FDA proposal to revoke the GRAS status of byproduct hydrochloric acid, which appeared in the Thursday, April 26, 1984 Federal Register.

The FDA stated that the reason for this action is the concern for undesirable contaminants in byproduct acid. The potential for specific organic contaminants in byproduct acid is highly variable, dependent on the process involved and the post treatment after production. To categorically revoke GRAS status for all byproduct acid regardless of general or specific contaminants levels in the final product, is not an appropriate manner to address the contaminant concern. It would seem more appropriate to develop performance standards based on process design or specific contaminant levels in finished product.

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The Agency stated that to evaluate a specific type of byproduct hydrochloric information was needed regarding the manufacturing

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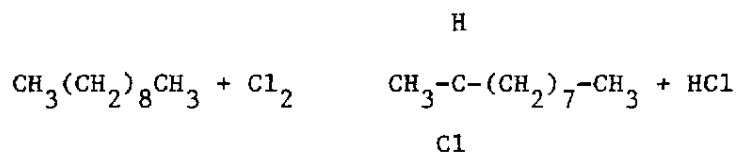
process and contaminant levels. The following is offered in order to supply that information on Vista Chemical's process.

VISTA PROCESS DESCRIPTION

Vista's NALKYLENE process is a proprietary process which reacts normal paraffins with chlorine to produce chloroparaffin and then alkylates the chloroparaffin with benzene in a Friedel-Crafts reaction catalyzed with aluminum chloride. Both the chlorination and alkylation reaction liberate HCl gas which is absorbed in water to produce muriatic acid. The muriatic acid is then subjected to multiple purification steps before being sold. A more complete description of the HCl/muriatic acid production and purification process at the Vista plant is as follows:

Chlorination Step

The major feedstocks to the chlorination section of the Vista NALKYLENE process are normal paraffins in the Decane to Dodecane range and chlorine. Chlorine is fed into a chlorination reactor where it reacts with liquid paraffin to form chloroparaffin. The chlorination step liberates gaseous HCl by the following reaction:

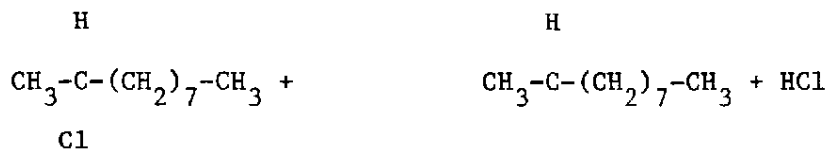


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Off gas from the chlorination reactor is sent through a chlorine absorber where normal paraffin is used to react with any chlorine residual in the off gas. Chlorine free HCl off gas flows from the chlorine absorber to the HCl purification/absorption section of the process.

Alkylation Step

The chloroparaffin from the chlorination section of the Vista NALKYLENE process flows to the alkylation section and is reacted with benzene by means of a Friedel-Crafts reaction using anhydrous aluminum chloride catalyst. The alkylation section also liberated HCl gas by the following reaction:



The HCl gas from the alkylation reaction is separated from the crude alkylation reaction liquid under a slight vacuum in order to remove as much HCl as possible. The HCl off-gas is compressed and fed to the HCl purification/absorption section of the Vista process.

HCl Purification/Absorption

Since the alkylation reaction is carried out in the presence of excess benzene the off-gas from the alkylation section contains benzene as well as HCl. There is also a limited quantity of benzene in the chlorination section off-gas. In the initial step in the HCl purification/absorption process the benzene concentration in the HCl off-gas streams is reduced by contacting the combined chlorination/alkylation off-gas streams with chloroparaffin in an absorption tower. The chloroparaffin absorbs benzene. The HCl gas is then sent to a second absorption process where fresh water is used to absorb the HCl gas to form muriatic acid. The chloroparaffin stream is sent to the alkylation reaction section.

Fresh water is used in a two stage falling film absorption process to convert the HCl gas into muriatic acid. Final scrubbers remove any residual HCl from the inert gases which were present in the off-gas HCl prior to their venting to the atmosphere. The crude muriatic acid product is sent to the acid purification section.

Muriatic Acid Purification

The crude muriatic acid from the acid absorption process contains about 1000 ppm of organic contaminants - primarily benzene.

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Therefore, additional purification is required to produce a final muriatic acid product. Purification is accomplished in two steps by first contacting the muriatic acid with pure paraffin feedstock in a two stage contact/separation step and then final filtration with activated carbon.

A pure paraffin stream is contacted with the muriatic acid and then separated from the acid in a coalescing filter/separation vessel. Two vessels are used in a series to get the optimum contact and separation. The pure paraffin stream absorbs benzene and other contaminants from the muriatic acid. It is however, almost completely insoluble in acid itself. Therefore, the total organic content of the muriatic acid is reduced to about 10 ppm after this step. The final carbon filtration step reduces the total organic concentration to less than 0.1 ppm (by hexane extraction analysis) and the benzene concentration to less than 50 ppb (by photo ionization detector chromatograph).

To summarize the byproduct acid produced by the process described above will contain less than 0.1 ppm of total extractable organics and less than 0.05 ppm benzene.

The agency also requested data on the food catagories to which the acid, and organic contaminants remaining in the food. Much of this information is not available to Vista as a producer. This data would best be obtained from the users of hydrochloric acid.

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September 11, 1984

In addition to the above key items, we believe you should also be aware of the following potential financial impacts. A ban of by-product muriatic acid from food-grade non food-grade acid among the by-product producers. This will likely cause a decrease in the non food-grade acid price and will result in the destruction (neutralization) of much of the excess acid. Muriatic acid neutralization is costly and poses the potential environmental problem of HCl vapor release. Further more, there will quite likely be regional supply shortages of on-purpose muriatic acid resulting in increased transportation costs to the food-grade consumers.

We realize that on paper there will be no more acid being produced and things may appear to balance out. However, in reality muriatic acid inventory capabilities are small and timing is critical. We believe a disruption of this size to the market would take years to stabilize and would result in a price difference between by-product and on-purpose muriatic acid significantly larger than FDA has estimated.

VVV 000016301

JH: ~~ACL~~: TGG: RF
XF: None

Thomas G. Grumbles



To Chuck Glover

Date 9/10

Here is an additional sheet
for the revision group. Please
add to the pile!



VVV 000016302



Conoco Chemicals
5 Greenway Plaza East
P.O. Box 2197
Houston, Texas 77001

MATERIAL SAFETY DATA SHEET

I PRODUCT IDENTIFICATION	
MANUFACTURER'S NAME Conoco Chemicals VISTA Chemical Company	REGULAR TELEPHONE NO. 713/965- 2222 5403 EMERGENCY TELEPHONE NO. 318/491- 5070 5142
ADDRESS Chocolate Bayou Operations, P.O. Box 2917, Alvin, TX 77511 PO Box 727, Westlake, La. 70669	
TRADE NAME Propylene Propane / Propylene	
SYNONYMS Propylene, propene	

II HAZARDOUS INGREDIENTS		
MATERIAL OR COMPONENT	%	HAZARD DATA
Propylene	65 35	
Propane	35 65	

III PHYSICAL DATA			
BOILING POINT (°F.)	-50	SPECIFIC GRAVITY (H ₂ O = 1)	0.49
VAPOR PRESURE (mm Hg.)	160 psia @ 70°F	PERCENT VOLATILE BY VOLUME (%)	100
VAPOR DENSITY (AIR = 1)	1.45	EVAPORATION RATE (Ether = 1)	>1
SOLUBILITY IN WATER	Negligible	MELTING POINT	-300°F
APPEARANCE AND ODOR	Colorless, odorless		

IV FIRE AND EXPLOSION DATA					
FLASH POINT (TEST METHOD)	160 °F -160		AUTOIGNITION TEMPERATURE	870°F	
FLAMMABLE LIMITS IN AIR. % BY VOL.	LOWER	2.0	UPPER	11.1	
EXTINGUISHING MEDIA	CO ₂ , Dry Chemical, H ₂ O				
SPECIAL FIRE FIGHTING PROCEDURES	Stop flow of gas - cool exposed containers with water spray.				
UNUSUAL FIRE AND EXPLOSION HAZARD	In confined spaces, certain mixtures with air explode when ignited.				

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V**HEALTH HAZARD INFORMATION****FIRST AID**

EYES: Wash with copious amounts of water for 15 minutes. Seek physician's aid.

SKIN: Wash with copious amounts of water for 15 minutes. Seek physician's aid.

INHALATION: Remove to fresh air; Eliminate any airway obstruction. Administer artificial respiration or oxygen if breathing has stopped and cardio-pulmonary resuscitation if indicated. Seek physician's aid.

INGESTION: not applicable

NATURE OF HAZARD

EYES: No effects from high concentrations in gaseous form. When compressed to a liquid form, it can cause burns.

SKIN: No effects from high concentrations in gaseous forms. When compressed to liquid form, it can cause burns.

INHALATION: Excessive exposure may cause nervous system depression and asphyxiation.

INGESTION: Propylene is a gas at room temperature and should not be a significant hazard via ingestion.

EFFECTS OF OVEREXPOSURE:

ACUTE OVEREXPOSURE: Simple asphyxiant; Anesthesia, unconsciousness.

CHRONIC OVEREXPOSURE: Unknown.

THRESHOLD LIMIT VALUE (TLV)

None established.

TOXICITY DATA

SKIN CONTACT: No specific data available.

EYE CONTACT: No specific data available.

INHALATION: Guinea pigs exposed to 55,000 ppm ^{Propylene} for 1-2 hours showed tremors and nervous system depression but no fatalities or tissue damage occurred.

INGESTION: No specific data available.

VVV 000016304

SPECIAL PRECAUTIONS:

VI**REACTIVITY DATA****CONDITIONS CONTRIBUTING TO INSTABILITY**

High temperature and pressure. Presence of strong oxidizing materials.

INCOMPATIBILITY

Strong oxidizers.

HAZARDOUS DECOMPOSITION PRODUCTS

none

CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION

should not occur

VII**SPILL OR LEAK PROCEDURES****STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED**

Remove all sources of ignition. Dissipate vapor with water spray.

NEUTRALIZING CHEMICALS**WASTE DISPOSAL METHOD**

Incineration in an approved facility, in accordance with local, state, and Federal regulations.

VIII**SPECIAL PROTECTION INFORMATION****VENTILATION REQUIREMENTS**

Mechanical ventilation should be used in confined spaces.

SPECIFIC PERSONAL PROTECTIVE EQUIPMENT**RESPIRATORY (SPECIFY IN DETAIL):**

Air supplied equipment.

EYE: Chemical safety goggles should be worn if there is any possibility of liquid coming in contact with eyes.

GLOVES: Rubber gloves should be worn if there is any possibility of liquid coming in contact with the skin.

OTHER CLOTHING AND EQUIPMENT: As needed to prevent exposure of skin to liquid product.

VVV 000016305

IX SPECIAL PRECAUTIONS	
HAZARD CLASSIFICATION INFORMATION	
IMCO HAZARD CLASS AND NUMBER 2.1	US DOT CLASSIFICATION Flammable Gas
UN NUMBER 1075 107	EEC DANGEROUS SUBSTANCE CLASSIFICATION
ADR CLASS NUMBER	EEC SPECIAL RISKS AND SAFETY ADVICE
CAS NUMBER 115-07-1	
TRANSPORTATION AND STORAGE	
USUAL SHIPPING CONTAINERS Pipeline 100 approved steel cylinders cylinders	ELECTROSTATIC ACCUMULATION HAZARD Yes - Ground All Equipment
	STORAGE/TRANSPORT PRESSURE Dependent on Ambient Temperature. ^{see} section 3
STORAGE TRANSPORT TEMPERATURE Ambient	LOADING/UNLOADING TEMPERATURE Ambient
	VISCOSITY AT LOADING/UNLOADING TEMPERATURE
HANDLING AND STORAGE MATERIALS AND COATINGS	
SUITABLE	UNSUITABLE
Carbon Steel	

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