



DEPARTMENT OF ENVIRONMENTAL QUALITY
DIVISION OF AIR QUALITY

Michael O. Leavitt
Governor
Dianne R. Nielson, Ph.D.
Executive Director
Russell A. Roberts
Director

150 North 1950 West
P.O. Box 144820
Salt Lake City, Utah 84114-4820
(801) 536-4000
(801) 536-4099 Fax
(801) 538-4414 T.D.D.

December 7, 1995

DAQE-1134-95

Lynn S. Hill
Hill Air Force Base
Headquarters
Ogden Logistics Center (AFMC)
Hill Air Force Base, Utah 84056

Dear Mr. Hill:

Re: Approval Order for Setup Chemical Milling Process Line in Bldg 238
Davis County, CDS-A1, Non-Attainment, Title V

The attached document is an Approval Order for the above referenced project.

Future correspondence on this Approval Order should include the engineer's name as well as the DAQE number as shown on the upper right-hand corner of this letter. Please direct any technical questions you may have on this project to Mr. Nando Meli. He may be reached at (801) 536-4052.

Sincerely,



Russell A. Roberts, Executive Secretary
Utah Air Quality Board

RAR:NM:aj

cc: Davis County Health Department
28 East State Street
PO Box 618
Farmington, UT 84025-618



4.2.4-61

STATE OF UTAH

Department of Environmental Quality

Division of Air Quality

**APPROVAL ORDER FOR SETUP CHEMICAL MILLING
PROCESS LINE IN BLDG 238**

**Prepared By: Nando Meli, Engineer
801-536-4052**

APPROVAL NUMBER

DAQE-1134-95

Date: December 7, 1995

Source

Hill Air Force Base

**Lynn S. Hill
801-777-0359**

**Russell A. Roberts
Executive Secretary
Utah Air Quality Board**

Abstract

Hill Air Force Base (AFB) is requesting approval to move and replace their existing Chemical Milling Process Line (Chem Mill Line). The current Chem Mill Line is a grandfathered source and needs to be relocated from Building 265 to Building 238. A water based maskant will replace the existing solvent based maskant that is currently being used. This new maskant will result in the VOC emissions being reduced from 11.9 to 0.38 tons per year. The Sodium Hydroxide emissions will remain at 0.29 tons per year and the Isoprep emissions will remain at 0.44 tons per year. Hill AFB is a major source that is located in Davis County which is a Nonattainment Area for PM₁₀ and Ozone.

The above-referenced project has been evaluated and found to be consistent with the requirements of the Utah Air Conservation Rules (UACR) and the Utah Air Conservation Act. A 30-day public comment period was held and all comments received were evaluated. The conditions of this AO reflect any changes to the proposed conditions which resulted from the evaluation of the comments received. This air quality AO authorizes the project with the following conditions and failure to comply with any of the conditions may constitute a violation of this order:

General Conditions:

1. This AO applies to the following company:

Facility Location

Department of the Air Force
Headquarters Ogden Logistics Center (AFMC)
Hill Air Force Base, Utah

PHONE NUMBER (801) 777-0359

FAX NUMBER (801) 777-6742

The equipment listed below in this AO shall be operated at the following location:

PLANT LOCATION:

East of Exit 336 on Interstate 15

Universal Transverse Mercator (UTM) Coordinate System:

4,55.5 kilometers Northing; 418.0 kilometers Easting; Zone 12

2. Definitions of terms, abbreviations, and references used in this AO conform to those used in the UACR, Utah Administrative Codes (UAC), and Series 40 of the Code of Federal Regulations (40 CFR). These definitions take precedence unless specifically defined otherwise herein.
3. Hill Air Force Base (AFB) shall install and operate the Chemical Processing Line in Building 238 according to the terms and conditions of this AO as requested in the Notice of Intent dated March 3, 1995, and additional information submitted to the Executive Secretary dated May 3, 1995, and May 6, 1995.

4. A copy of this AO shall be posted on site. The AO shall be available to the employees who operate the air emission producing equipment. These employees shall receive instruction as to their responsibilities in operating the equipment according to all of the relevant conditions listed below.
5. The approved installations shall consist of the following equipment or equivalent:
 - A. Five 2000 gallon Chemical Milling Process Tanks
 - 1) Maskant Dip Tank
 - 2) Hot Water Dip Tank
 - 3) Isoprep Tank
 - 4) Water Spray Rinse Tank
 - 5) Sodium Hydroxide Tank

* Equivalency shall be determined by the Executive Secretary.

Limitations and Tests Procedures

6. Visible emissions from any stationary point or fugitive emission source associated with the source or with the control facilities shall not exceed 10% opacity. Opacity observations of emissions from stationary sources shall be conducted in accordance with 40 CFR 60, Appendix A, Method 9.
7. The following production limits shall not be exceeded without prior approval in accordance with R307-1-3.1, UAC:
 - A. 1500 gallons of Water Based Maskant per rolling 12-month period
 - B. 660 gallons of Sodium Hydroxide per rolling 12-month period
 - C. 220 gallons of Isoprep per rolling 12-month period

Compliance with the annual limitations shall be determined on a rolling 12-month total. The owner/operator shall calculate a new 12-month total based on the first day of each month using data from the previous 12 months. Records of consumption shall be kept for all periods when the plant is in operation. Records of consumption, including rolling 12-month totals shall be made available to the executive secretary or his representative upon request and shall include a period of two years ending with the date of the request. Consumption shall be determined by purchase records and operations log. The records shall be kept on a daily basis.

Volatile Organic Compound (VOC) and Hazardous Air Pollutants (HAPs) Limitations

8. The facility shall abide by all applicable requirements of UAC R307-14 for volatile organic compound (VOC) sources located in an ozone Nonattainment area. At a minimum, RACT control measures are required and BACT will be no less stringent than RACT. These requirements include but are not limited to:

"14-5.A.(5) Written procedures for the operation and maintenance of the degreasing or solvent cleaning equipment shall be permanently posted in an accessible and conspicuous location near the equipment."

The full text of UAC R307-14 is included as Appendix A. However, to be in compliance, this facility must operate in accordance with the most current version of R307-14 or the applicable section(s), if renumbered.

9. The emissions of VOCs from the Chemical Milling Process Line tanks, etc. and associated operations located in Building 238 shall not exceed:

0.38 tons per rolling 12-month period for VOCs

This value shall not be exceeded without prior approval in accordance with R307-1-3.1, UAC. Compliance with the limitation shall be determined on a rolling 12-month total. Based on the first day of each month a new 12-month total shall be calculated using data from the previous 12 months.

VOCs and HAPs emissions from the chemical milling process line in Building 238 emitted to the atmosphere shall be determined by maintaining a record of volatile organic compound potential and hazardous air pollutant potential contained in materials used each month. The record shall include the following data for each item used:

- A. Name of the VOC and HAPs emitting material, such as: paint, adhesive, solvent, thinner, reducers, chemical compounds, isocyanates, etc.
- B. The weight and use location of the volatile organic compound potential and hazardous air pollutant potential of the material(s) listed in A in pounds per gallon.
- C. Percent by weight of all volatile organic compound potential and hazardous air pollutant potential for each individual material listed in A. The percent by weight of the volatile and hazardous air pollutant potentials can be obtained from the manufacturers' MSDSs. The owner/operator can obtain MSDS data from the manufacturers of the materials and retain the information on-site.
- D. Amount and location of materials containing VOCs and HAPs used on a monthly basis and summed for every location and for the entire plant each month.
- E. To calculate the above potentials contained in the material listed in D use the following procedure:

$$\text{VOC} = \frac{(\% \text{ Volatile by Weight})}{(100)} \times \frac{(\text{Density lb})}{(\text{gal})} \times \frac{(\text{Gal Consumed})}{(2,000 \text{ lb})} \times (1 \text{ ton})$$

- F. The amount of volatile organic content potential (potential air emissions) and hazardous air pollutant potential (potential air emissions) in pounds contained in materials deposited as solid or hazardous waste for the month shall be quantified and subtracted from the quantities calculated above. This is done to allow

quantification by the source of the total VOCs and HAPs emissions. (The assumption is that all the two above potentials of the materials applied to a product evaporate and are therefore considered emissions).

- G. Records of consumption of VOCs and HAPs shall be kept for all periods when the plant is in operation. Records of consumption shall be made available to the executive secretary upon request, and shall include a period of two years ending with the date of the request.
10. All HAPs are subject to the annual Operating Permit Program if one of the following conditions is met:
 - A. The emissions of any one of the 189 HAPs listed in the 1990 Clean Air Act is over ten (10) tons/yr
 - B. The emissions of any combination of these HAPs are over 25 tons/yr
 11. This source is a major Title V source needing an Operating Permit. It is required to pay an annual emission fee upon start-up [or if an existing facility, upon issuance of this AO. The fee will be based on calculated annual emissions listed at the end of this AO. This fee is valid until inventory data for one year are available for the source. The owner or operator of this source will be billed upon start-up for all emissions that are considered "chargeable" as of that date.

Records & Miscellaneous

12. All installations and facilities authorized by this AO shall be adequately and properly maintained. All pollution control vendor recommended equipment shall be installed, maintained, and operated. Instructions from the vendor or established maintenance practices that maximize pollution control shall be used. All necessary equipment control and operating devices, such as pressure gauges, amp meters, volt meters, flow rate indicators, temperature gauges, etc., shall be installed and operated properly and easily accessible to compliance inspectors. A copy of all manufacturers' operating instructions for pollution control equipment and pollution emitting equipment shall be kept on site. These instructions shall be available to all employees who operate the equipment and shall be made available to compliance inspectors upon their request.
13. The owner/operator shall comply with R307-1-3.5, UAC. This rule addresses emission inventory reporting requirements.
14. The owner/operator shall comply with R307-1-4.7, UAC. This rule addresses unavoidable breakdown reporting requirements. The owner/operator shall calculate/estimate the excess emissions whenever a breakdown occurs. All excess emissions shall immediately be reported to the executive secretary. The total of excess emissions shall be reported to the executive secretary as directed for each calendar year.
15. All records referenced in this AO which are required to be kept by the owner/operator, shall be made available to the Executive Secretary or his representative upon request and shall include a period of two years ending with the date of the request. All records shall

be kept for a period of two years. Examples of records to be kept at this source shall include the following as applicable:

- A. Production rate (Condition number 7)
- B. VOC and HAP consumption records (Condition number 10)
- C. Maintenance records (Condition number 12)
- D. Upset, breakdown episodes (Condition number 14)

Any future modifications to the equipment approved by this order must also be approved in accordance with R307-1-3.1.1, UAC.

This AO in no way releases the owner or operator from any liability for compliance with all other applicable federal, state, and local regulations including the UACR.

Annual emissions for this Chemical Milling Process Line at Building 238 are currently calculated at the following values:

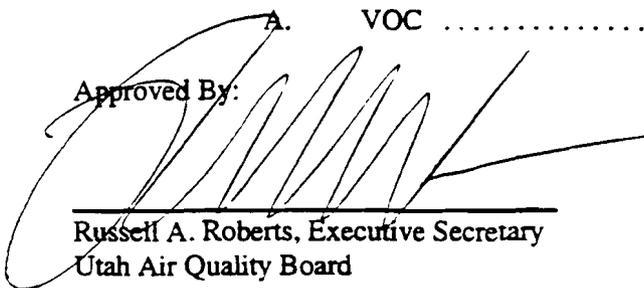
	<u>Pollutant</u>	<u>Tons/yr</u>
A.	VOC	0.38
B.	NaOH	0.29
C.	Isoprep	0.44

These calculations are for the purposes of determining the applicability of Prevention of Significant Deterioration and Nonattainment area major source requirements of the UACR. Except for VOC's they are not to be used for purposes of determining compliance.

In accordance with the requirements of Title V of the 1990 Clean Air Act, the following pollutants may be subject to an operating permit fee. Emissions of the following pollutants from all sources, including pre-November 19, 1969, sources, may be subject to the operating permit fee. Both the fees rate and the class of pollutants are subject to change by State, the federal agencies, or both.

	<u>Pollutant</u>	<u>Tons/yr</u>
A.	VOC	0.38

Approved By:



Russell A. Roberts, Executive Secretary
Utah Air Quality Board



DEPARTMENT OF ENVIRONMENTAL QUALITY
DIVISION OF AIR QUALITY

Michael O. Leavitt
Governor
Dianne R. Nielson, Ph.D.
Executive Director
Russell A. Roberts
Director

150 North 1950 West
P.O. Box 144820
Salt Lake City, Utah 84114-4820
(801) 536-4000
(801) 536-4099 Fax
(801) 538-4414 T.D.D.

October 18, 1995

DAQE-951-95

Hill Air Force Base
Headquarters
Ogden Logistics Center (AFMC)
Hill Air Force Base, UT 84056

Dear Mr. Graziano:

Re: Intent to Approve Setup Chemical Milling Process Line in Bldg 238
Davis County, CDS-A1, Non-Attainment, Title V

The attached document is an Intent to Approve for the above referenced project.

Future correspondence on this Approval Order should include the engineer's name as well as the DAQE number as shown on the upper right-hand corner of this letter. Please direct any technical questions you may have on this project to Mr. Nando Meli. He may be reached at (801) 536-4052.

Sincerely,


Lynn R. Menlove, Manager
New Source Review Section
Utah Division of Air Quality

LRM:NM:aj

cc: Davis County Health Department
28 East State Street
POB 618
Farmington, UT 84025-618



4.2.4-68

STATE OF UTAH

Department of Environmental Quality

Division of Air Quality

INTENT TO APPROVE SETUP CHEMICAL MILLING PROCESS LINE IN BLDG 238

Prepared By: Nando Meli, Engineer
(801) 536-4052

INTENT TO APPROVE NUMBER

DAQE-951-95

Date: October 18, 1995

Source

Hill Air Force Base
Lynn S. Hill
(801) 777-0359

Russell A. Roberts
Executive Secretary
Utah Air Quality Board

Abstract

Hill Air Force Base (AFB) is requesting approval to move and replace their existing Chemical Milling Process Line (Chem Mill Line). The current Chem Mill Line is a grandfathered source and needs to be relocated from Building 265 to Building 238. A water based maskant will replace the existing solvent based maskant that is currently being used. This new maskant will result in the VOC emissions being reduced from 11.9 to 0.38 tons per year. The Sodium Hydroxide emissions will remain at 0.29 tons per year and the Isoprep emissions will remain at 0.44 tons per year. Hill AFB is a major source that is located in Davis County which is a Nonattainment Area for PM₁₀ and Ozone.

The Notice of Intent for the above-referenced project has been evaluated and has been found to be consistent with the requirements of the Utah Air Conservation Rules (UACR) and the Utah Air Conservation Act. Air pollution producing sources and/or their air control facilities may not be constructed, installed, established, or modified prior to the issuance of an Approval Order (AO) by the Executive Secretary of the Utah Air Quality Board.

A Notice of Intent to issue an AO will be published in the Newspaper Agency on October 23, 1995. A 30-day period following the publishing date will be allowed during which the proposal and evaluation of its impact on air quality will be available for both you and the public to review and comment. If anyone so requests within 15 days of publication of the notice, a hearing will be held. The hearing will be held as close as practicable to the location of the source. Any comments received during the 30-day period and the hearing, if held, will be evaluated.

Please review the proposed AO conditions during this period and make any comments you may have before its closure. The proposed conditions of the AO may be changed as a result of the comments received. Unless changed, the AO will be based upon the following conditions:

General Conditions:

1. This AO applies to the following company:

Facility Location

Department of the Air Force
Headquarters Ogden Logistics Center (AFMC)
Hill Air Force Base, Utah

PHONE NUMBER (801) 777-0359
FAX NUMBER (801) 777-6742

The equipment listed below in this AO shall be operated at the following location:

PLANT LOCATION:

East of Exit 336 on Interstate 15

Universal Transverse Mercator (UTM) Coordinate System:

4,55.5 kilometers Northing; 418.0 kilometers Easting; Zone 12

2. Definitions of terms, abbreviations, and references used in this AO conform to those used in the UACR, Utah Administrative Codes (UAC), and Series 40 of the Code of Federal Regulations (40 CFR). These definitions take precedence unless specifically defined otherwise herein.
3. Hill Air Force Base (AFB) shall install and operate the Chemical Processing Line in Building 238 according to the terms and conditions of this AO as requested in the Notice of Intent dated March 3, 1995, and additional information submitted to the Executive Secretary dated May 3, 1995, and May 6, 1995.
4. A copy of this AO shall be posted on site. The AO shall be available to the employees who operate the air emission producing equipment. These employees shall receive instruction as to their responsibilities in operating the equipment according to all of the relevant conditions listed below.
5. The approved installations shall consist of the following equipment or equivalent:
 - A. Five 2000 gallon Chemical Milling Process Tanks
 - 1) Maskant Dip Tank
 - 2) Hot Water Dip Tank
 - 3) Isoprep Tank
 - 4) Water Spray Rinse Tank
 - 5) Sodium Hydroxide Tank

* Equivalency shall be determined by the Executive Secretary.

Limitations and Tests Procedures

6. Visible emissions from any stationary point or fugitive emission source associated with the source or with the control facilities shall not exceed 10% opacity. Opacity observations of emissions from stationary sources shall be conducted in accordance with 40 CFR 60, Appendix A, Method 9.
7. The following production limits shall not be exceeded without prior approval in accordance with R307-1-3.1, UAC:
 - A. 1500 gallons of Water Based Maskant per rolling 12-month period
 - B. 660 gallons of Sodium Hydroxide per rolling 12-month period
 - C. 220 gallons of Isoprep per rolling 12-month period

Compliance with the annual limitations shall be determined on a rolling 12-month total. The owner/operator shall calculate a new 12-month total based on the first day of each month

using data from the previous 12 months. Records of consumption shall be kept for all periods when the plant is in operation. Records of consumption, including rolling 12-month totals shall be made available to the executive secretary or his representative upon request and shall include a period of two years ending with the date of the request. Consumption shall be determined by purchase records and operations log. The records shall be kept on a daily basis.

Volatile Organic Compound (VOC) and Hazardous Air Pollutants (HAPs) Limitations

8. The facility shall abide by all applicable requirements of UAC R307-14 for volatile organic compound (VOC) sources located in an ozone Nonattainment area. At a minimum, RACT control measures are required and BACT will be no less stringent than RACT. These requirements include but are not limited to:

"14-5.A.(5) Written procedures for the operation and maintenance of the degreasing or solvent cleaning equipment shall be permanently posted in an accessible and conspicuous location near the equipment."

The full text of UAC R307-14 is included as Appendix A. However, to be in compliance, this facility must operate in accordance with the most current version of R307-14 or the applicable section(s), if renumbered.

9. The plant-wide emissions of VOCs from the Chemical Milling Process Line tanks, etc. and associated operations shall not exceed:

0.38 tons per rolling 12-month period for VOCs

This value shall not be exceeded without prior approval in accordance with R307-1-3.1, UAC. Compliance with the limitation shall be determined on a rolling 12-month total. Based on the first day of each month a new 12-month total shall be calculated using data from the previous 12 months.

VOCs and HAPs emissions from the chemical milling process line in building 238 emitted to the atmosphere shall be determined by maintaining a record of volatile organic compound potential and hazardous air pollutant potential contained in materials used each month. The record shall include the following data for each item used:

- A. Name of the VOC and HAPs emitting material, such as: paint, adhesive, solvent, thinner, reducers, chemical compounds, isocyanates, etc.
- B. The weight and use location of the volatile organic compound potential and hazardous air pollutant potential of the material(s) listed in A in pounds per gallon.
- C. Percent by weight of all volatile organic compound potential and hazardous air pollutant potential for each individual material listed in A. The percent by weight

of the volatile and hazardous air pollutant potentials can be obtained from the manufacturers' MSDSs. The owner/operator can obtain MSDS data from the manufacturers of the materials and retain the information on-site.

- D. Amount and location of materials containing VOCs and HAPs used on a monthly basis and summed for every location and for the entire plant each month.
- E. To calculate the above potentials contained in the material listed in D use the following procedure:

$$\text{VOC} = \frac{(\% \text{ Volatile by Weight})}{(100)} \times \frac{(\text{Density lb})}{(\text{gal})} \times \frac{(\text{Gal Consumed})}{(2,000 \text{ lb})} \times (1 \text{ ton})$$

- F. The amount of volatile organic content potential (potential air emissions) and hazardous air pollutant potential (potential air emissions) in pounds contained in materials deposited as solid or hazardous waste for the month shall be quantified and subtracted from the quantities calculated above. This is done to allow quantification by the source of the total VOCs and HAPs emissions. (The assumption is that all the two above potentials of the materials applied to a product evaporate and are therefore considered emissions).
 - G. Records of consumption of VOCs and HAPs shall be kept for all periods when the plant is in operation. Records of consumption shall be made available to the executive secretary upon request, and shall include a period of two years ending with the date of the request.
10. All HAPs are subject to the annual Operating Permit Program if one of the following conditions is met:
- A. The emissions of any one of the 189 HAPs listed in the 1990 Clean Air Act is over 10 tons/yr
 - B. The emissions of any combination of these HAPs are over 25 tons/yr
11. This source is a major Title V source needing an Operating Permit. It is required to pay an annual emission fee upon start-up [or if an existing facility, upon issuance of this AO. The fee will be based on calculated annual emissions listed at the end of this AO. This fee is valid until inventory data for one year are available for the source. The owner or operator of this source will be billed upon start-up for all emissions that are considered "chargeable" as of that date.

Records & Miscellaneous

12. All installations and facilities authorized by this AO shall be adequately and properly maintained. All pollution control vendor recommended equipment shall be installed, maintained, and operated. Instructions from the vendor or established maintenance practices that maximize pollution control shall be used. All necessary equipment control and operating

devices, such as pressure gauges, amp meters, volt meters, flow rate indicators, temperature gauges, etc., shall be installed and operated properly and easily accessible to compliance inspectors. A copy of all manufacturers' operating instructions for pollution control equipment and pollution emitting equipment shall be kept on site. These instructions shall be available to all employees who operate the equipment and shall be made available to compliance inspectors upon their request.

13. The owner/operator shall comply with R307-1-3.5, UAC. This rule addresses emission inventory reporting requirements.
14. The owner/operator shall comply with R307-1-4.7, UAC. This rule addresses unavoidable breakdown reporting requirements. The owner/operator shall calculate/estimate the excess emissions whenever a breakdown occurs. All excess emissions shall immediately be reported to the executive secretary. The total of excess emissions shall be reported to the executive secretary as directed for each calendar year.
15. All records referenced in this AO which are required to be kept by the owner/operator, shall be made available to the Executive Secretary or his representative upon request and shall include a period of two years ending with the date of the request. All records shall be kept for a period of two years. Examples of records to be kept at this source shall include the following as applicable:
 - A. Production rate (Condition number 7)
 - B. VOC and HAP consumption records (Condition number 10)
 - C. Maintenance records (Condition number 12)
 - D. Upset, breakdown episodes (Condition number 14)

Any future modifications to the equipment approved by this order must also be approved in accordance with R307-1-3.1.1, UAC.

This AO in no way releases the owner or operator from any liability for compliance with all other applicable federal, state, and local regulations including the UACR.

Annual emissions for this Chemical Milling Process Line at Building 238 are currently calculated at the following values:

	<u>Pollutant</u>	<u>Tons/yr</u>
A.	VOC	0.38
B.	NaOH	0.29
C.	Isoprep	0.44

These calculations are for the purposes of determining the applicability of Prevention of Significant Deterioration and Nonattainment area major source requirements of the UACR. Except for VOC's they are not to be used for purposes of determining compliance.

In accordance with the requirements of Title V of the 1990 Clean Air Act, the following pollutants may be subject to an operating permit fee. Emissions of the following pollutants from all sources, including pre-November 19, 1969 sources, may be subject to the operating permit fee. Both the fees rate and the class of pollutants are subject to change by State, the federal agencies, or both.

	<u>Pollutant</u>	<u>Tons/yr</u>
A.	VOC	0.38

The Division of Air Quality is authorized to charge a fee for reimbursement of the actual costs incurred in the issuance of an AO. Unless public comments are received which require additional work, the fee for this AO will be \$1,000.00. An invoice will follow. You may pay this fee prior to the end of the comment period. If there are comments or additional fees, you will be notified.

Sincerely,



Lynn R. Menlove, Manager
New Source Review Section

143 SOUTH MAIN ST.
P.O. BOX 45838
SALT LAKE CITY, UTAH 84145
FED. TAX I.D. # 87-0217663

Newspaper Agency Corporation
The Salt Lake Tribune (NA) DESERET NEWS

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PROOF OF PUBLICATION

COPY

CUSTOMER NAME AND ADDRESS	ACCOUNT NUMBER	
UT ST DEPT OF ENVR QULTY DIV OF AIR QUALITY P.O. BOX 144820 SALT LAKE CITY, UT 84114	U5364000L-07	10/23/95

RECEIVED
OCT 28 1995
Air Quality

ACCOUNT NAME	
UT ST DEPT OF ENVR QULTY	
TELEPHONE	INVOICE NUMBER
801-536-4000	TLAI8200701
SCHEDULE	
START 10/23/95 END 10/23/95	

NOTICE
The following notice of intent to construct, submitted in accordance with Section 3.1, Utah Air Conservation Rules, has been received for consideration by the Executive Secretary, Utah Air Quality Board:

1. Mike Graziano, Hill Air Force Base, 7274 Wardleigh Road, Hill Air Force Base, Utah 84056-5137. Location: Setup Chemical Milling Process Line in Bldg. 238.

The Net Increase in Approved Emissions will be (A negative indicates a decrease in emissions):

-11.47 tons/year

The engineering evaluation and air quality impact analysis have been completed and no adverse air quality impacts are expected. It is the intent of the Executive Secretary to approve the construction project.

The construction proposal and estimates of the effect on local air quality are available for public inspection and comment at the Division of Air Quality, Utah State Department of Environmental Quality, 1950 West North Temple, Salt Lake City, Utah 84114-4820. Written comments received by the Division, at the same address on or before November 22, 1995, will be considered in making the final decision on the approval/disapproval of the proposed construction.

If anyone so requests to the Executive Secretary in writing, within 15 days of publication of the Notice, a hearing will be held to explain the project and technical rationale for proposed action. A hearing will be scheduled as close as practicable to the proposed project location. Comments obtained during a hearing will be evaluated and considered by the Executive Secretary before making a final decision on the approval/disapproval of the project.

Date of Notice: Oct. 23, 1995.
A520070

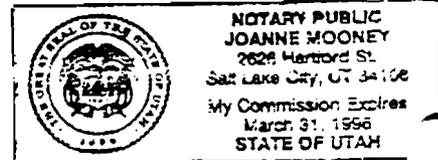
CUST. REF. NO.	
HILL AIR FORCE BASE	
CAPTION	
NOTICE THE FOLLOWING NOTICE OF	
SIZE	
66 LINES	1.00 COLUMN
TIMES	RATE
1	1.64
MISC. CHARGES	AD. CHARGES
.00	108.24
TOTAL COST	
108.24	

AFFIDAVIT OF PUBLICATION

NEWSPAPER AGENCY CORPORATION LEGAL BOOKKEEPER, I CERTIFY THAT THE ATTACHED ADVERTISEMENT OF NOTICE THE FOLLOWING NOTICE OF _____ FOR _____ UT ST DEPT OF ENVR QULTY _____ WAS PUBLISHED BY THE NEWSPAPER AGENCY CORPORATION, AGENT FOR THE SALT LAKE TRIBUNE AND DESERET NEWS, DAILY NEWSPAPERS PRINTED IN THE ENGLISH LANGUAGE WITH GENERAL CIRCULATION IN UTAH, AND PUBLISHED IN SALT LAKE CITY, SALT LAKE COUNTY IN THE STATE OF UTAH.

PUBLISHED ON START 10/23/95 END 10/23/95

SIGNATURE Joanne Mooney
DATE 10/23/95



2320 6131 2XXX ANSWER JAG 10/30/95

THIS IS NOT A STATEMENT BUT A "PROOF OF PUBLICATION"
PLEASE PAY FROM BILLING STATEMENT.



DEPARTMENT OF ENVIRONMENTAL QUALITY
DIVISION OF AIR QUALITY

FILE COPY

Michael O. Leavitt 150 North 1950 West
Governor P.O. Box 144820
Dianne R. Nielson, Ph.D. Salt Lake City, Utah 84114-4820
Executive Director (801) 536-4000
Russell A. Roberts (801) 536-4099 Fax
Director (801) 538-4414 T.D.D.

October 18, 1995

DAQE-952-95

Newspaper Agency
Legal Advertising Department
157 Regent Street
Salt Lake City, UT 84111

This letter will confirm the authorization to publish the attached NOTICE in the Newspaper Agency on October 23, 1995.

Please mail the invoice and affidavit of publication to the Utah State Department of Environmental Quality, Division of Air Quality, P.O. Box 144820, Salt Lake City, Utah 84114-4820.

Sincerely,

Amelia Jaramillo
Office Technician
Utah Division of Air Quality

Enclosure



4.2.4-77

NOTICE

The following notice of intent to construct, submitted in accordance with Section 3.1, Utah Air Conservation Rules, has been received for consideration by the Executive Secretary, Utah Air Quality Board:

1. Mike Graziano
Hill Air Force Base
7274 Wardleigh Road
Hill Air Force Base, UT 84056-5137
Location: Setup Chemical Milling Process Line in Bldg 238

The Net Increase in Approved Emissions will be (A negative sign indicates a decrease in emission rates.):

VOC -11.47 tons/year

The engineering evaluation and air quality impact analysis have been completed and no adverse air quality impacts are expected. It is the intent of the Executive Secretary to approve the construction project.

The construction proposal and estimates of the effect on local air quality are available for public inspection and comment at the Division of Air Quality, Utah State Department of Environmental Quality, 1950 West North Temple, Salt Lake City, Utah 84114-4820. Written comments received by the Division, at the same address on or before November 22, 1995, will be considered in making the final decision on the approval/disapproval of the proposed construction.

If anyone so requests to the Executive Secretary in writing, within 15 days of publication of the Notice, hearing will be held to explain the project and technical rationale for proposed action. A hearing will be

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scheduled as close as practicable to the proposed project location. Comments obtained during a hearing will be evaluated and considered by the Executive Secretary before making a final decision on the approval/disapproval of the project.

Date of Notice: October 23, 1995

U. AH DIVISION OF AIR QUALITY
NEW/MODIFIED SOURCE PLAN REVIEW

Lynn S. Hill
Chief, Environmental Compliance
Department of the Air Force
Headquarters Ogden Logistics Center (AFMC)
Hill Air Force Base, Utah

RE: Relocation of Chemical Milling Process Line
Davis County, CDS A1; NA; HAPs. TITLE V MAJOR

REVIEW ENGINEER: Nando Meli

DATE: September 13, 1995

NOTICE OF INTENT DATED: May 3, 1995

PLANT CONTACT: Mike Graziano

PHONE NUMBER: (801) 777-0359

FAX NUMBER (801) 777-6742

PLANT LOCATION: East of Exit 336 on Interstate 15 Freeway

UTM COORDINATES: 4,551.5 km Northing, 418.0 km Easting, Zone 12

FEES:

Basic Approval Order Fee	\$1000.00
Review Engineer	\$000.00
Modeler	\$000.00
Notice To Paper	\$80.00
Travel	<u>\$000.00</u>
TOTAL	\$1080.00

APPROVALS:

Peer Engineer Mike M. Beheshti 09/19/95
Mike Beheshti

We request that you read the proposed Approval Order conditions: if you do not understand or do not agree with the contents of the conditions, please contact the review engineer within five days. However, when you understand the attached proposed/draft Approval Order conditions, please sign below and return. Thank You.

Applicant Contact Nando Meli for Michael Graziano Oct 3, 95 fax
(Signature & Date)

TYPE OF IMPACT AREA

Nonattainment Area

PM ₁₀	Yes
SO ₂	No
NO _x	No
CO	No
Ozone	Yes
NSPS	No
NESHAP	No
Hazardous Air Pollutants	No
Hazardous Air Pollutants Major Source	No
New Major Source	No
Major Modification	No
PSD Permit	No
PSD Increment	No
(modeling)	
Send to EPA	No
Operating Permit Program	Yes

FOR MODIFIED SOURCES

The Notice of Intent is for a modification to an existing source. The following standards apply in this review:

NSPS applies to modification?	No
PSD review of entire source required?	No
NESHAPS applies to modification?	No
HAPs involved in modification?	No
TITLE V required for entire source?	Yes
HAPs MAJOR for modification?	No
NONATT MAJOR for entire source?	Yes

Abstract

Hill Air Force Base (AFB) is requesting approval to move and replace their existing Chemical Milling Process Line (Chem Mill Line). The current Chem Mill Line is a grandfathered source and needs to be relocated from Building 265 to Building 238. A water based maskant will replace the existing solvent based maskant that is currently being used. This new maskant will result in the VOC emissions being reduced from 11.9 to 0.38 tons per year. The Sodium Hydroxide emissions will remain at 0.29 tons per year and the Isoprep emissions will remain at 0.44 tons per year. Hill AFB is a major source that is located in Davis County which is a Nonattainment Area for PM₁₀ and Ozone.

I. DESCRIPTION OF PROPOSAL

Hill Air Force Base (AFB) is requesting approval to move and replace their existing Chemical Milling Process Line (Chem Mill Line). The current Chem Mill Line is a grandfathered source and needs to be relocated from Building 265 to Building 238. A water based maskant will replace the existing solvent based maskant is presently being used. This new maskant will result in the VOC emissions being reduced from 11.9 tons to 0.11 tons per year.

II. EMISSION SUMMARY

The emissions from the Hill Air Force Base Chemical Milling Process Line will be as follows:

<u>Pollutant</u>	<u>Current Emissions tons/year</u>	<u>Emission Changes tons/year</u>	<u>Total Emissions tons/year</u>
VOC	11.85	-11.47	0.38
NaOH	0.29	0.0	0.29
Isoprep	0.44	0.0	0.44

The VOC emissions come from the water based maskant, and 0.4% of the maskant is Styrene (0.4% x 0.11 tpy = 0.0004 tpy), 4% of the maskant is Toluene (4% x 0.11 tpy = 0.0044 tpy).

III. BEST AVAILABLE CONTROL TECHNOLOGY (BACT) ANALYSIS

Presently a VOC maskant is being used on the Chemical Milling Process Line in Building 265. When the Chemical Milling Line is moved to Building 238 a new water based maskant will be used. This will result in a 99% reduction in VOC emissions.

The New Source Review section recommends that the new Chemical Milling Process Line be accepted as BACT with a 10% opacity limit.

IV. APPLICABILITY OF FEDERAL REGULATIONS AND UTAH ADMINISTRATIVE CODES (UAC)

This Notice of Intent is for grandfathered source. It is not a new major source or a major modification. The following federal regulations and state rules have been examined to determine their applicability to this Notice of Intent:

1. R307-1-3.1. UAC - Notice of Intent required for a modified source. This rule applies. A Notice of Intent is required for the new Chemical Milling Process Line.

2. R307-1-3.1.5, UAC - Continuous program of construction, required to begin within eighteen months of Approval Order date. If a continuous program of construction is not proceeding, the executive secretary may revoke the Approval Order.
3. R307-1-3.1.7 (A), UAC - A Notice of Intent is not required for all natural gas fuel burning equipment with a total rated capacity of less than 5 MMBTU per hour. There will be no new natural gas devices installed. Therefore, this rule applies, and a Notice of Intent is not required based on this rule but is required based on R307-1-3.1, UAC.
4. R307-1-3.1.7 (E), UAC - Notice of Intent required for a new parking lot of 600 or more spaces and adding 350 or more spaces to an existing lot. This rule will not apply because a new lot or addition is not being constructed.
5. R307-1-3.1.7 (F), UAC - Notice of Intent not required for sources with emissions less than 10 tons/yr of the following compounds: 1,1,1-trichloroethane, methylene chloride, trichlorofluoromethane, dichlorodifluoromethane, chlorodifluoromethane, trifluoromethane, 1,1,2-trichloro-1,2,2-trifluoroethane, 1,2-dichloro-1,1,2,2-tetrafluoroethane, methane, ethane and chloropentafluoroethane. However, if the source is emitting more than 10 tons/yr of any of these compounds, a Notice of Intent must be filed and an annual report of emissions thereafter. This emission point will not emit 10 tons/year of any of these regulated pollutants. Therefore, this rule applies, and a Notice of Intent is not required based on this rule.
6. R307-1-3.1.8 (A), UAC - Application of best available control technology (BACT) required at all emission points. This rule applies to all sources throughout the state unless they are located in a Nonattainment area. RACT applies in Nonattainment areas.
7. R307-1-3.1.8 (C), UAC - Approval of the Utah Air Quality Board (UAQB) is required before the executive secretary can approve a source under Section 3.6.5 that consumes more than 50% of a PSD increment. This rule does not apply to this NOI because a PSD permit is not being issued.
8. R307-1-3.1.9, UAC - Rules for relocation of temporary sources. This source is a permanent source. Therefore, this rule does not apply.
9. R307-1-3.1.12, UAC - Requirement for installation of low-NO_x burners on all existing sources whenever existing fuel combustion burners are replaced, unless the replacement is not physically practical or cost effective. The effective date is November 15, 1990. There will be no burners replaced at this time. Therefore, this rule does not apply. However, BACT requires low NO_x burners.
10. R307-1-3.2.1, UAC - Particulate emission limitations for existing sources that are located in a Nonattainment area. This rule has been superseded by the Section IX, Parts A and H of the SIP except for Weber County. This source is not listed in the SIP. Therefore, this rule does not apply.
11. R307-1-3.3.2, UAC - Review requirements for new major sources or major modifications that are located in a Nonattainment area or which impact a Nonattainment area. This Notice of Intent does not represent a new major source or a major modification. Therefore, this rule will not apply.
12. R307-1-3.3.3.B (2), UAC - Enforceable offset of 1.2:1 required for new sources or modifications that would produce an emission increase greater than or equal to 50.00 tons

per year of any combination of PM₁₀, SO₂, and NO_x. This is required in Salt Lake, Davis, and Utah Counties and in any area that affects these three counties as defined in the rule. The effective date is November 15, 1990. This source will have no emission increases. Therefore, an offset will not be required.

13. R307-1-3.3.3.B (3), UAC - Enforceable offset of 1:1 required for new sources or modifications that would produce an emission increase greater than or equal to 25.00 tons per year but less than 50 tons per year of any combination of PM₁₀, SO₂, and NO_x. This is required in Salt Lake, Davis, and Utah Counties and in any area that affects these three counties as defined in the rule. The effective date is November 15, 1990. This source will have no emission increases. Therefore, an offset will not be required.

14. R307-1-3.3.3.C, UAC - Enforceable offset of 1.15:1 required for new sources or modifications of sources as defined in Section 182 of the CAA. Section 182(b)(1)(A)(i) of the CAA defines these sources as sources of volatile organic compounds and as sources of oxides of nitrogen. This is required in Salt Lake and Davis Counties and in any area that affects these three counties as defined in the rule. The effective date is August 16, 1993. This source will have no emission increases. Therefore, an offset will not be required.

If the contingency measures are triggered the following will not apply and see R30713.3.3.C on offsets for ozone Nonattainment area restrictions.

If it is an existing Major source with a 40 tpy increase or a new major source offsets of 1.15:1 are required. There will be no emissions increase. Therefore, an offset will not be required.

15. R307-1-3.5, UAC - Emission inventory reporting requirements. This rule requires any source that emits 25 tons or more per year of any pollutant or any Part 70 source to submit an emission inventory to the Division of Air Quality every year or as determined necessary by the executive secretary. This source must comply with this rule.

16. R307-1-3.6.3, UAC - Prevention of Significant Deterioration (PSD) Increment Consumption - This rule lists the allowable PSD increment consumption. Under the PSD rules, the entire state has been triggered for Particulate (PM₁₀), SO₂, and NO_x. The allowable increments are as follows:

Particulate (PM₁₀) (µg/m³)

	<u>Three Hour</u>	<u>24 Hour</u>	<u>Annual</u>
Class I Area	N/A	8	4
Class II Area	N/A	30	17

SO₂ (µg/m³)

Class I Area	25	5	2
Class II Area	512	91	20

NO_x (µg/m³)

Class I Area	N/A	N/A	2.5
Class II Area	N/A	N/A	25

There are also Class III increments, which do not apply in Utah. The above increments apply at all locations, unless the area is already Nonattainment. The entire increment may not be available at all locations due to previously permitted sources consuming increment.

17. R307-1-3.6.5 (b), UAC - Prevention of Significant Deterioration (PSD) review requirements for new major sources or major modifications. This Notice of Intent does not represent a new major source or a major modification under PSD rules. Therefore, this rule does not apply.
18. R307-1-3.6.6, UAC - Increment violations. This rule requires the UAQB to promulgate a plan and implement rules to eliminate any PSD increment violations that occur in the state. No known violations have yet occurred. This proposed Notice of Intent will not consume any increments.
19. R307-1-3.7, UAC - Air Quality Modeling - All estimates of ambient concentrations required in meeting the requirements of the regulations shall be based on appropriate air quality models, data bases, and other requirements specified in the Utah Guidelines to Air Quality Models. Modeling analysis is not routinely performed for air pollution sources with emissions below the following levels:

Criteria for Screen Modeling
(≥ Tons per Year)

TSP	10
PM ₁₀	5
SO ₂	20
NO ₂	20
CO	50
VOC	20
O ₃	5
HAPs	10

There will be no increase in emissions. Therefore, modeling will not be required.

20. R307-1-3.8, UAC - Stack height rule. This rule limits the creditable height of stacks to that height determined to be good engineering practice. The formulas used to determine good engineering practice are found in 40 CFR 51.100. The maximum creditable height of 65 meters (213.2 feet) is allowed. Hill AFB has no stacks that exceed 65 meters in height. Therefore, this source/facility is in compliance with this rule.
21. R307-1-3.10, UAC - Visibility screening analysis requirements. This rule requires all new major sources or major modifications to undergo a visibility screening analysis to determine visibility impact on any mandatory Class I area. This Notice of Intent does not represent a new major source or a major modification under UACR rules. Therefore, this rule does not apply.
22. R307-1-4.1.2, UAC - 20% opacity limitation at all emission points. Unless a more stringent limitation is required by New Source Performance Standards (NSPS) or BACT or National Emission Standards for Hazardous Air Pollutants (NESHAPS). In this case, an opacity limitation of 10% is recommended as BACT.
23. R307-1-4.1.9, UAC - EPA Method 9 shall be used for visible emission observations. This rule applies.

4.2.4-85

24. R307-1-4.7, UAC - Unavoidable breakdown reporting requirements. This rule applies. Section 4.7.1 discusses reporting requirements. A breakdown for any period longer than two hours must be reported to the executive secretary within three hours of the beginning of the breakdown, if reasonable, but in no case longer than 18 hours after the beginning of the breakdown. A written report is required within seven calendar days. The report shall include the estimated quantity of pollutants (total and excess). R307-1-4.7.2 discusses penalties.
25. R307-1-5, UAC - Emergency episode requirements. This rule requires the executive secretary to determine the stage and extent of an air pollution episode based on pollution levels and meteorological conditions. Under Section 40 of the Code of Federal Regulations, Part 51, Subpart H (51.150 to 153), it is required that sources plan emergency measures based upon the severity of the Nonattainment area in which they operate. In Utah, these rules require that CO sources in CO Nonattainment areas and sources of ozone precursors in ozone Nonattainment areas, who emit at least 25 tons per year (SIP, Section VII.B.) of either pollutant, submit an Emergency Episode Plan which provides for additional pollution reductions in the event of an Air Pollution Alert, Warning or Emergency Episode. These plans can include total shut-down of the process. (Some sources are required to submit an emergency episode plan according to Section VII.B. of the SIP). This rule applies.
26. R307-14, UAC - Review requirements for volatile organic compound (VOC) sources located in an ozone Nonattainment area. For sources located in ozone Nonattainment areas (Salt Lake and Davis Counties) this rule specifies the minimum (RACT) control measures promulgated by the Utah Air Quality Board. In addition, UACR 3.1.1 requires application of BACT for all new or modified sources in the state. However, within an ozone Nonattainment area BACT can not be less stringent than RACT. Therefore, for ozone Nonattainment areas the more stringent requirement is applicable (i.e., BACT as required by UACR 3.1.1 or RACT as defined by rule 14 or as defined in a published Control Techniques Guidance document).

This 14 rule covers the following processes:

- A. Section 14-1 - General
- B. Section 14-2 - Petroleum liquid storage
- C. Section 14-3 - Gasoline transfer/storage
- D. Section 14-4 - Control of hydrocarbon emissions in refineries
 - 4.A. Vacuum producing systems
 - 4.B. Wastewater separators
 - 4.C. Process unit turnaround
 - 4.D. Catalytic cracking units
 - 4.E. Safety pressure relief valves
 - 4.F. Leaks from petroleum refinery equipment
- E. Section 14-5 - Degreasing and solvent cleaning operations
 - 1) Cold cleaning facilities
 - 2) Open top vapor degreasers
 - 3) Conveyorized degreasers

- F. Section 14-6 - Cutback asphalt
- G. Section 14-7 - Surface Coating Processes
 - 1) Section 7.A - General Provisions
 - 2) Section 7.B - Paper Coating
 - 3) Section 7.C - Fabric and Vinyl Coating
 - 4) Section 7.D - Metal Furniture Coating VOC Emissions
 - 5) Section 7.E - Large Appliance Surface Coating VOC Emissions
 - 6) Section 7.F - Magnet Wire Coating VOC Emissions
 - 7) Section 7.G - Flat Wood Coating
 - 8) Section 7.H - Miscellaneous Metal Parts and Products VOC Emissions
 - 9) Section 7.I - Graphic Arts
 - 10) Section 7.J - Exemptions
 - 11) Section 7.K - Capture Systems
 - 12) Section 7.L - Testing and Monitoring
- H. Section 14-8 - Perchloroethylene Dry Cleaning Plants
- I. Section 14-9 - Compliance Schedule
- J. Section 14-10 - Stage II Vapor Recovery Systems

For painting operations this rule specifies specific limits on the VOC content in paints and coatings used. In addition there is a provision for allowing use of coatings with higher VOC content if, because of emission control measures, "equivalent" emissions will result. Therefore, sources proposing to use coatings that do not meet the VOC contents specified in rule 14, must submit an analysis of their control measure that demonstrates equivalency with the VOC limitations of rule 14.

The published CTGs as of April 1, 1995 include:

- 1) Control Methods for Surface Coating Operations
- 2) Surface Coating of Cans, Coils, Paper, Fabrics, Automobiles, and Light-Duty Trucks
- 3) Surface Coating of Metal Furniture
- 4) Surface Coating of Insulation of Magnet Wire
- 5) Surface Coating of Large appliances
- 6) Surface Coating of Miscellaneous Metal Parts and Products
- 7) Surface Coating of Flat Wood Paneling
- 8) Graphic Arts - Rotogravure and Flexography
- 9) Bulk Gasoline Plants
- 10) Storage of Petroleum Liquids in Fixed Roof Tanks
- 11) Wastewater Separators and process unit turnarounds
- 12) Use of Cutback Asphalt
- 13) Tank Truck Gasoline Loading Terminals
- 14) Stage I Vapor Control Systems - Gasoline Service Stations
- 15) Leaks from Petroleum refinery Equipment
- 16) Manufacture of Vegetable Oils
- 17) Petroleum Liquid Storage in External Floating Roof Tanks
- 18) Perchloroethylene Dry Cleaning Systems
- 19) Leaks from Gasoline Tank Trucks and Vapor Collection Systems
- 20) Large Petroleum Dry Cleaners

- 21) Synthetic Organic Chemical, Polymer, and Resin Manufacturing Equipment
- 22) Leaks from Natural Gas/Gasoline Processing Plants
- 23) Solvent Metal Cleaning
- 24) Synthesized Pharmaceutical Products
- 25) Pneumatic Rubber Tires
- 26) Stationary Sources
- 27) Air Oxidation Processes in Synthetic Organic Chemical Manufacturing Industry
- 28) High-Density Polyethylene, Polypropylene, and Polystyrene Resins
- 29) Fugitive Emission Sources of Organic Compounds
- 30) Synthetic Organic Chemical Manufacturing Industry - Reactor and Distillation Operations Processes
- 31) Measurement of Volatile Organic Compounds

For ozone attainment areas the requirements of UACR 3.1.1 (BACT) apply. However, BACT for these sources should be evaluated in light of the RACT requirements that have been established by UACR 14. BACT in an attainment area may be determined to be less stringent than the RACT requirements established in rule 14 or a published Control Techniques Guidance document (which apply to a Nonattainment area) however, a detailed BACT analysis should be conducted by the source to justify a less stringent control measure in an attainment area. This source is located in Davis County. Therefore, this rule applies to this source.

27. 40 CFR, Part 60 - New Source Performance Standards (NSPS) - There is no NSPS for this industrial process. There is a NSPS for this industrial process.
28. 40 CFR, Part 61 - National Emission Standards for Hazardous Air Pollutants (NESHAP) - There is no NESHAP for this industrial process. There is a NESHAP for this industrial process.
29. 40 CFR, Part 50 - National Ambient Air Quality Standards (NAAQS) - This source is located in Davis County, which is a Nonattainment area for ozone.

The Division of Air Quality guidelines do not call for this source to be modeled for any pollutant. The Division has found through experience that a source or emission point of this small size is very unlikely to cause a new violation of the NAAQS. This is because of the small quantity of emissions involved and the conservative predictions made by modeling. However, it will make a small contribution to the existing violation for ozone of the NAAQS.

For VOC emissions, there is no model that can predict an ozone impact directly from VOC emissions. However, since VOCs are precursors to ozone formation, this new source will contribute to the existing exceedances of the ozone standard in Davis County. The amount of that contribution has not been decided. The ozone Nonattainment area of Davis and Salt Lake Counties must show reasonable further progress toward attainment of the standard. This source, along with all other VOC sources having emissions above ten tons per year, may have to apply more controls to lower the VOC emissions. This would be a SIP change action.

30. 40 CFR 60.14, Definition of Modification - Any physical or operational change to an existing facility that results in an increase in the emission rate to the atmosphere of any

pollutant to which an NSPS standard applies. The following are not by themselves considered modifications:

- A. Maintenance, repair, and replacement
- B. An increase in production rate of an existing facility, if that increase can be accomplished without a capital expenditure on that facility
- C. An increase in the hours of operation
- D. Use of an alternate fuel or raw material if, before the date any standard under this part becomes applicable to that source type, as provided by 60.1, the existing facility was designed to accommodate that alternative use
- E. The addition or use of any system or device whose primary function is the reduction of air pollutants
- F. Relocation or change in ownership

Also see R307-1-1 (Modification), which is the State's definition. This Notice of Intent is a modification.

31. 40 CFR 60.15. Definition of Reconstruction - the replacement of components of an existing facility to such an extent that:
- A. The fixed capital cost of the new components exceeds 50% of the fixed capital cost that would be required to construct a comparable entirely new facility and
 - B. It is technologically and economically feasible to meet the applicable standards set forth in this part

This Notice of Intent is a reconstruction.

32. R307-1-1. Definition of Major Modification - It means any physical change in or changes in the method of operation of a major source that would result in a significant net emission increase of any pollutant. A net emissions increase that is significant for VOC shall be considered significant for ozone. A physical change or change in the method of operation shall not include:
- A. Routine maintenance, repair, or replacement
 - B. Use of an alternative fuel or raw material by reason of an order under Sections 2a and 2b of the ESECA of 1974 or by reason of a natural gas curtailment plan pursuant to the Federal Power Act
 - C. Use of an alternative fuel by reason of an order under Section 125 of the CAA
 - D. Use of an alternative fuel at a steam generating unit to the extent that the fuel is generated from municipal solid waste
 - E. Use of an alternative fuel or raw material by a source:

- 1) which the source was capable of accommodating before January 6, 1975.
- unless such change would be prohibited under any enforceable permit condition
 - 2) which the source is otherwise approved to use
- F. An increase in the hours of operation or the production rate unless such change would be prohibited under any enforceable permit condition
- G. Any change in ownership at a source

This Notice of Intent is not a major modification.

V. RECOMMENDED APPROVAL ORDER CONDITIONS

General Conditions:

1. This Approval Order (AO) applies to the following company:

Facility Location

Department of the Air Force
Headquarters Ogden Logistics Center (AFMC)
Hill Air Force Base, Utah

PHONE NUMBER (801) 777-0359

FAX NUMBER (801) 777-6742

The equipment listed below in this AO shall be operated at the following location:

PLANT LOCATION:

East of Exit 336 on Interstate 15

Universal Transverse Mercator (UTM) Coordinate System:
4,55.5 kilometers Northing; 418.0 kilometers Easting; Zone 12

2. Definitions of terms, abbreviations, and references used in this AO conform to those used in the Utah Air Conservation Rules (UACR), Utah Administrative Codes (UAC), and Series 40 of the Code of Federal Regulations (40 CFR). These definitions take precedence unless specifically defined otherwise herein.
3. Hill Air Force Base (AFB) shall install and operate the Chemical Processing Line in Building 538 according to the terms and conditions of this AO as requested in the Notice of Intent dated March 3, 1995 and additional information submitted to the Executive Secretary dated May 3, 1995, and May 6, 1995.
4. A copy of this AO shall be posted on site. The AO shall be available to the employees who operate the air emission producing equipment. These employees shall receive instruction as to their responsibilities in operating the equipment according to all of the relevant conditions listed below.
5. The approved installations shall consist of the following equipment or equivalent:
 - A. Five 2000 gallon Chemical Milling Process Tanks
 - 1) Maskant Dip Tank
 - 2) Hot Water Dip Tank
 - 3) Isoprep Tank
 - 4) Water Spray Rinse Tank
 - 5) Sodium Hydroxide Tank

* Equivalency shall be determined by the Executive Secretary.

Limitations and Tests Procedures

6. Visible emissions from any stationary point or fugitive emission source associated with the source or with the control facilities shall not exceed 10% opacity. Opacity observations of emissions from stationary sources shall be conducted in accordance with 40 CFR 60, Appendix A, Method 9.
7. The following production limits shall not be exceeded without prior approval in accordance with R307-1-3.1, UAC:
 - A. 1500 gallons of Water Based Maskant per rolling 12-month period
 - B. 660 gallons of Sodium Hydroxide per rolling 12-month period
 - C. 220 gallons of Isoprep per rolling 12-month period

Compliance with the annual limitations shall be determined on a rolling 12-month total. The owner/operator shall calculate a new 12-month total based on the first day of each month using data from the previous 12 months. Records of consumption shall be kept for all periods when the plant is in operation. Records of consumption, including rolling 12-month totals shall be made available to the executive secretary or his representative upon request and shall include a period of two years ending with the date of the request. Consumption shall be determined by purchase records and operations log. The records shall be kept on a daily basis.

Volatile Organic Compound (VOC) and Hazardous Air Pollutants (HAPs) Limitations

8. The facility shall abide by all applicable requirements of UAC R307-14 for volatile organic compound (VOC) sources located in an ozone Nonattainment area. At a minimum, RACT control measures are required and BACT will be no less stringent than RACT. These requirements include but are not limited to:

"14-5.A.(5) Written procedures for the operation and maintenance of the degreasing or solvent cleaning equipment shall be permanently posted in an accessible and conspicuous location near the equipment."

The full text of UAC R307-14 is included as Appendix A. However, to be in compliance, this facility must operate in accordance with the most current version of R307-14 or the applicable section(s), if renumbered.

9. The plant-wide emissions of VOCs from the Chemical Milling Process Line tanks, etc. and associated operations shall not exceed:

0.38 tons per rolling 12-month period for VOCs

This value shall not be exceeded without prior approval in accordance with R307-1-3.1, UAC. Compliance with the limitation shall be determined on a rolling 12-month total. Based on the first day of each month a new 12-month total shall be calculated using data from the previous 12 months.

*from the chemical milling
Process line in*

Area 51d 538
The ~~plant-wide~~ emissions of VOCs and HAPs emitted to the atmosphere shall be determined by maintaining a record of volatile organic compound potential and hazardous air pollutant potential contained in materials used each month. The record shall include the following data for each item used:

- A. Name of the VOC and HAPs emitting material, such as: paint, adhesive, solvent, thinner, reducers, chemical compounds, isocyanates, etc.
 - B. The weight and use location of the volatile organic compound potential and hazardous air pollutant potential of the material(s) listed in A in pounds per gallon.
 - C. Percent by weight of all volatile organic compound potential and hazardous air pollutant potential for each individual material listed in A. The percent by weight of the volatile and hazardous air pollutant potentials can be obtained from the manufacturers' MSDSs. The owner/operator can obtain MSDS data from the manufacturers of the materials and retain the information on-site.
 - D. Amount and location of materials containing VOCs and HAPs used on a monthly basis and summed for every location and for the entire plant each month.
 - E. To calculate the above potentials contained in the material listed in D use the following procedure:

$$\text{VOC} = \frac{(\% \text{ Volatile by Weight})}{(100)} \times \frac{(\text{Density lb})}{(\text{gal})} \times \frac{(\text{Gal Consumed})}{(2,000 \text{ lb})} \times (1 \text{ ton})$$
 - F. The amount of volatile organic content potential (potential air emissions) and hazardous air pollutant potential (potential air emissions) in pounds contained in materials deposited as solid or hazardous waste for the month shall be quantified and subtracted from the quantities calculated above. This is done to allow quantification by the source of the total VOCs and HAPs emissions. (The assumption is that all the two above potentials of the materials applied to a product evaporate and are therefore considered emissions).
 - G. Records of consumption of VOCs and HAPs shall be kept for all periods when the plant is in operation. Records of consumption shall be made available to the executive secretary upon request, and shall include a period of two years ending with the date of the request.
10. All HAPs are subject to the annual Operating Permit Program if one of the following conditions is met:
- A. The emissions of any one of the 189 HAPs listed in the 1990 Clean Air Act is over 10 tons/yr
 - B. The emissions of any combination of these HAPs are over 25 tons/yr
11. This source is a major Title V source needing an Operating Permit. It is required to pay an annual emission fee upon start-up [or if an existing facility, upon issuance of this AO. The fee will be based on calculated annual emissions listed at the end of this AO. This fee is valid until inventory data for one year are available for the source. The owner or operator of this source will be billed upon start-up for all emissions that are considered "chargeable" as of that date.

Records & Miscellaneous

12. All installations and facilities authorized by this AO shall be adequately and properly maintained. All pollution control vendor recommended equipment shall be installed, maintained, and operated. Instructions from the vendor or established maintenance practices that maximize pollution control shall be used. All necessary equipment control and operating devices, such as pressure gauges, amp meters, volt meters, flow rate indicators, temperature gauges, etc., shall be installed and operated properly and easily accessible to compliance inspectors. A copy of all manufacturers' operating instructions for pollution control equipment and pollution emitting equipment shall be kept on site. These instructions shall be available to all employees who operate the equipment and shall be made available to compliance inspectors upon their request.
13. The owner/operator shall comply with R307-1-3.5, UAC. This rule addresses emission inventory reporting requirements.
14. The owner/operator shall comply with R307-1-4.7, UAC. This rule addresses unavoidable breakdown reporting requirements. The owner/operator shall calculate/estimate the excess emissions whenever a breakdown occurs. All excess emissions shall immediately be reported to the executive secretary. The total of excess emissions shall be reported to the executive secretary as directed for each calendar year.
15. All records referenced in this AO which are required to be kept by the owner/operator, shall be made available to the Executive Secretary or his representative upon request and shall include a period of two years ending with the date of the request. All records shall be kept for a period of two years. Examples of records to be kept at this source shall include the following as applicable:

- | | | |
|----|---------------------------------|-----------------------|
| A. | Production rate | (Condition number 7) |
| B. | VOC and HAP consumption records | (Condition number 10) |
| C. | Maintenance records | (Condition number 12) |
| D. | Upset, breakdown episodes | (Condition number 14) |

Any future modifications to the equipment approved by this order must also be approved in accordance with R307-1-3.1.1, UAC.

This AO in no way releases the owner or operator from any liability for compliance with all other applicable federal, state, and local regulations including the Utah Air Conservation Rules.

Annual emissions for this Chemical Milling Process Line at Building 238 are currently calculated at the following values:

	<u>Pollutant</u>	<u>Tons/yr</u>
A.	VOC	0.38
B.	NaOH	0.29
C.	Isoprep	0.44

These calculations are for the purposes of determining the applicability of Prevention of Significant Deterioration and nonattainment area major source requirements of the UACR. Except for VOC's they are not to be used for purposes of determining compliance.

In accordance with the requirements of Title V of the 1990 Clean Air Act, the following pollutants may be subject to an operating permit fee. Emissions of the following pollutants from all sources, including pre-November 19, 1969 sources, may be subject to the operating permit fee. Both the fees rate and the class of pollutants are subject to change by State, the federal agencies, or both.

<u>Pollutant</u>	<u>Tons/yr</u>
A. VOC	0.38

F:\AQ\ENGINEER\NMeli\WP\Hil-Chem.Rev



UTAH DIVISION OF AIR QUALITY

FAX COVER SHEET

150 NORTH 1950 WEST

CANNON L770 FAX # (801) 536-4099

SALT LAKE CITY, UTAH 84114-4820

CONFIRMATION # (801) 536-4000

FROM: Nando Meli Jr.

PHONE: (801) 536 - 4052

TO: Mike Graziano PHONE: 777-0359

AGENCY/FIRM Hill AFB

FAX NUMBER 777-6742 CONFIRMATION #: _____

NUMBER OF PAGES TO FOLLOW: 16

SUBJECT: ENGINEERING REVIEW

REMARKS: Could you reply as soon as possible with any comments that you may have on this Engineering Review.

Thank you.

LOGGED: 9/21 SENT: 9/21 RECEIVED: 1:45 CONFIRMED: MF

Mike Graziano

H AFB

Sept 12

1:31 phone
message

41.112° Latitude

111.476° Longitude

41.112

$$60 \times 0.112 = 6.72$$

$$60 \times 0.72 = 43.2$$

$$41.112^\circ = 41^\circ 6' 43''$$

111.476°

$$0.476 \times 60 = 58.56$$

$$0.56 \times 60 = 33.6$$

$$111.476 = 111^\circ 58' 34''$$

111° 58' 34" Long

41.112° Lat

=

418.040^{km} Easting

4,551.462 Northing

Zone 12

FAX MESSAGE

From: Michael J. Graziano
Air Quality Manager
OO-ALC/EME
7274 Wardleigh Road
Hill AFB, UT 84056-5137

Phone: (801) 777-0359 or DSN: 458-0359
FAX: (801) 777-4306 or DSN 458-4306

To: NANOO MELI
DAQ

Phone: 536-4052

NANOO:

These are my comments regarding the Chem Mill Process we discussed this morning.

- 1. Page 12, Item # 3: Change building number from 538 to 238.*
- 2. Page 13, Item # 9, Last Paragraph: Change first sentence to read as follows: VOC and HAP emissions from the Chem Mill process shall be determined by maintaining a record of volatile organic compounds potential and hazardous air pollutant potential contained in materials used each month.*

Number of pages this Transmission: _____

3. I am now the Chief of Environmental Compliance, in order to expedite the processing of this AO.

Please contact me if you have any further questions.

Thank
Mike Graziano

UTAH DIVISION OF AIR QUALITY
NEW/MODIFIED SOURCE PLAN REVIEW

Lynn S. Hill
Chief, Environmental Compliance
Department of the Air Force
Headquarters Ogden Logistics Center (AFMC)
Hill Air Force Base, Utah

RE: Relocation of Chemical Milling Process Line
Davis County. CDS A1; NA; HAPs, TITLE V MAJOR

REVIEW ENGINEER: Nando Meli

DATE: September 13, 1995

NOTICE OF INTENT DATED: May 3, 1995

PLANT CONTACT: Mike Graziano

PHONE NUMBER: (801) 777-0359

FAX NUMBER: (801) 777-6742

PLANT LOCATION: East of Exit 336 on Interstate 15 Freeway

UTM COORDINATES: 4,551.5 km Northing, 418.0 km Easting, Zone 12

FEES:

Basic Approval Order Fee	\$1000.00
Review Engineer	\$000.00
Modeler	\$000.00
Notice To Paper	\$80.00
Travel	<u>\$000.00</u>
TOTAL	\$1080.00

APPROVALS:

Peer Engineer Mike M. Beheshri 09/19/95
Mike Beheshri

We request that you read the proposed Approval Order conditions; if you do not understand or do not agree with the contents of the conditions, please contact the review engineer within five days. However, when you understand the attached proposed/draft Approval Order conditions, please sign below and return. Thank You.

Applicant Contact Lynn S. Hill 10/3/95
(Signature & Date)

FAA0ENGINBERONMELI/WP/AFMIL-Chem.Rev

FAX MESSAGE

From: Michael J. Graziano
Air Quality Manager
OO-ALC/EME
7274 Wardleigh Road
Hill AFB, UT 84056-5137

RECEIVED

SEP 06 1995

Air Quality

10:07 AM

Phone: (801) 777-0359 or DSN: 458-0359
FAX: (801) 777-4306 or DSN 458-4306

To: NAUNO MELI
DAQ

Phone: 536-4052

Nauno:

*This is the revised atch 1-2
for the Chem Mill Mashant NOI,
as we discussed earlier today.*

*Please note revised VOC emissions
756 lbs and Water based mashant
quantity (1,500 gal). Please call if
you have questions.*

Mike Graziano

Number of pages this Transmission: 2

Sodium Hydroxide (MSDS Attachment 4)

Twelve 55 gallon drums per year = 660 gallons
Specific gravity = 2.12
therefore 8.4 lb water/gallon X 2.12 X 660 gallons = 11,753.3 lb NaOH
Engineering estimate for NaOH losses from process tanks is 5%
11,753.3 lb X .05 = 588 lbs NaOH

Isoprep (MSDS Attachment 5)

Four 55 gallon drums per year = 220 gallons
Specific gravity = 1.43
therefore 8.4 lb water/gal X 1.43 X 220 gallons = 2,642.6 lb Isoprep
Engineering estimate for Sulfuric Acid losses from process tanks is 33%
2,642.6 lb X .33 = 872 lb Isoprep

Emissions Summary Grandfathered Process

VOC Maskant	2,252.8 lbs	
VOC Thinners	21,450.0	
Total VOC	23,702.8	11.9 tons
Sodium Hydroxide	588.0	0.30 ton
Isoprep	872.0	0.44 ton

D. Emissions Estimate Proposed Process

Water based Maskant (MSDS Attachment 6)

Estimated Use 1,500 gallons
Specific Gravity = 1.2
therefore 8.4 lb water/gallon X 1.2 X 1,500 gallons = 15,120 lb maskant
from MSDS solvent content is 5% so
15,120 lb maskant X 5% VOC = 756 lb VOC

Thinning agent for this maskant is deionized water

Emissions from Sodium Hydroxide and Isoprep remain the same.

E. Annual Emissions Summary

	VOC	NaOH	Isoprep
Old Maskant	23,702.8 lb	588.0 lb	872.0 lb
Test Maskant	756 lb	588.0 lb	872.0 lb

Estimated Annual VOC Emissions from new Process 756 lbs



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS OGDEN AIR LOGISTICS CENTER (AFMC)
HILL AIR FORCE BASE, UTAH

RECEIVED

MAY 04 1995

Air Quality

Mr Lynn Menlove
Manager, New Source Review
Division of Air Quality
1950 West North Temple
PO Box 144820
Salt Lake City, UT 84114-4820

3 May 1995

RE: Relocation of the Chemical Milling Process Line from Building 265 into Building 238

Dear Mr Menlove

This letter supersedes the one dated 3 March 1995 in which we requested an Experimental Approval Order to test a new maskant in the chemical milling process, and to relocate the process to Building 238. The current chemical milling operation is a grandfathered source and must be relocated from its present location in Building 265 into Building 238. However, there is no need for on-site testing of the alternative maskant material. Process engineers have investigated the use of the new material at other locations and based upon this information have determined it will meet their needs. This letter is to serve as Notice of Intent for an Approval Order to use the new maskant material and relocate the process to Building 238.

A detailed emissions estimate is provided in attachment 1. This estimate shows that the new maskant will reduce VOC emissions, from this process, by more than 11.5 tons. The estimated annual VOC emissions from the new process would be approximately 223 lbs per year. Based upon this analysis the new process would qualify as an insignificant source under Title V. The new maskant exceeds standards established in the proposed 40 CFR 63.747, National Emission Standards for Hazardous Air Pollutants, Aerospace Manufacturing and Rework, which specifies VOC content for compliant maskants must be less than 1.3 lbs/gal.

Your prompt response to this request would be greatly appreciated, so we may start up this new process as soon as possible. The original 3 March 1995 letter was assigned to Mr Nando Meli. If you have any questions regarding this matter please contact Mike Graziano at 777-0359.

Sincerely,

LYNN S. HILL

Chief, Environmental Compliance

6 Attachments

1. Process Description & Emissions Estimate
2. Project Layout
3. High VOC Maskant Tech Data Bulletin
4. MSDS Sodium Hydroxide
5. MSDS Isoprep
6. MSDS Low VOC Maskant

cc: LAOPE (John Vidic)
LARTW (Rich Trejos)

CHEMICAL MILLING PROCESS DESCRIPTION
AND EMISSIONS ESTIMATE

A. Install five new process tanks in building 238 (Proposed layout attachment 2)

- Tank #1 Maskant Dip, exhausted to outside
- Tank #2 Hot Water Dip, exhausted to outside
- Tank #3 Isoprep, exhausted to outside
- Tank #4 Water Spray Rinse
- Tank #5 Sodium Hydroxide, exhausted to outside

All dip tanks are 2000 gallons.

Slotted ventilation systems across the top of tanks 1, 2, and 3 will be manifolded together and exhausted through a 38" duct 60' above ground level.

The slotted ventilation system across the top of tank 5 will be exhausted through a 24" duct 60' above ground level.

B. The general process for each part is as follows;

1. Dip in Sodium Hydroxide, tank #5, for 30 seconds; flash cleaning.
2. Dip in Hot Rinse, tank #2.
3. Dip in Isoprep, tank #3; desmutting.
4. Spray Rinse in tank #4
5. Hang Dry
6. Dip in Maskant, tank #1.
7. Hang Dry 24 hours
8. Use template and cut away maskant from area to be milled.
9. Dip in Sodium Hydroxide tank #5, exposed metal areas are milled at 0.001 inch per minute.
10. Dip in Hot Rinse tank #2.
11. Dip in Isoprep tank #3, for cleaning.
12. Spray Rinse in tank #4.
13. Repeat steps 8-12 as needed to mill various areas to desired depths.

C. Emissions Estimate Grandfathered Process

Maskant (Tech Data Sheet Attachment 3)

Eight 55 gallon drums per year = 440 gallons
8.0 lbs per gallon = 3,520 lbs
from MSDS solids are 36%, therefore solvents are 64%

3,520 lbs of maskant/yr X 64% VOC = **2,252.8 lb VOC**

Thinner

Maskant must be thinned with 1 drum of solvent each week
52 drums/yr X 55 gal/drum X 7.5 lbs VOC/gal = **21,450 lbs VOC**

Sodium Hydroxide (MSDS Attachment 4)

Twelve 55 gallon drums per year = 660 gallons
 Specific gravity = 2.12
 therefore 8.4 lb water/gallon X 2.12 X 660 gallons = 11,753.3 lb NaOH
 Engineering estimate for NaOH losses from process tanks is 5%
 11,753.3 lb X .05 = **588 lbs NaOH**

Isoprep (MSDS Attachment 5)

Four 55 gallon drums per year = 220 gallons
 Specific gravity = 1.43
 therefore 8.4 lb water/gal X 1.43 X 220 gallons = 2,642.6 lb Isoprep
 Engineering estimate for Sulfuric Acid losses from process tanks is 33%
 2,642.6 lb X .33 = **872 lb Isoprep**

Emissions Summary Grandfathered Process

VOC Maskant	2,252.8 lbs	
VOC Thinners	21,450.0	
Total VOC	23,702.8	11.9 tons
Sodium Hydroxide	588.0	0.30 ton
Isoprep	872.0	0.44 ton

D. Emissions Estimate Proposed Process

Water based Maskant (MSDS Attachment 6)

Eight 55 gallon drums per year = 440 gallons
 Specific Gravity = 1.2
 therefore 8.4 lb water/gallon X 1.2 X 440 gallons = 4435.2 lb maskant
 from MSDS solvent content is 5% so
 4435.2 lb maskant X 5% VOC = **221.8 lb VOC**

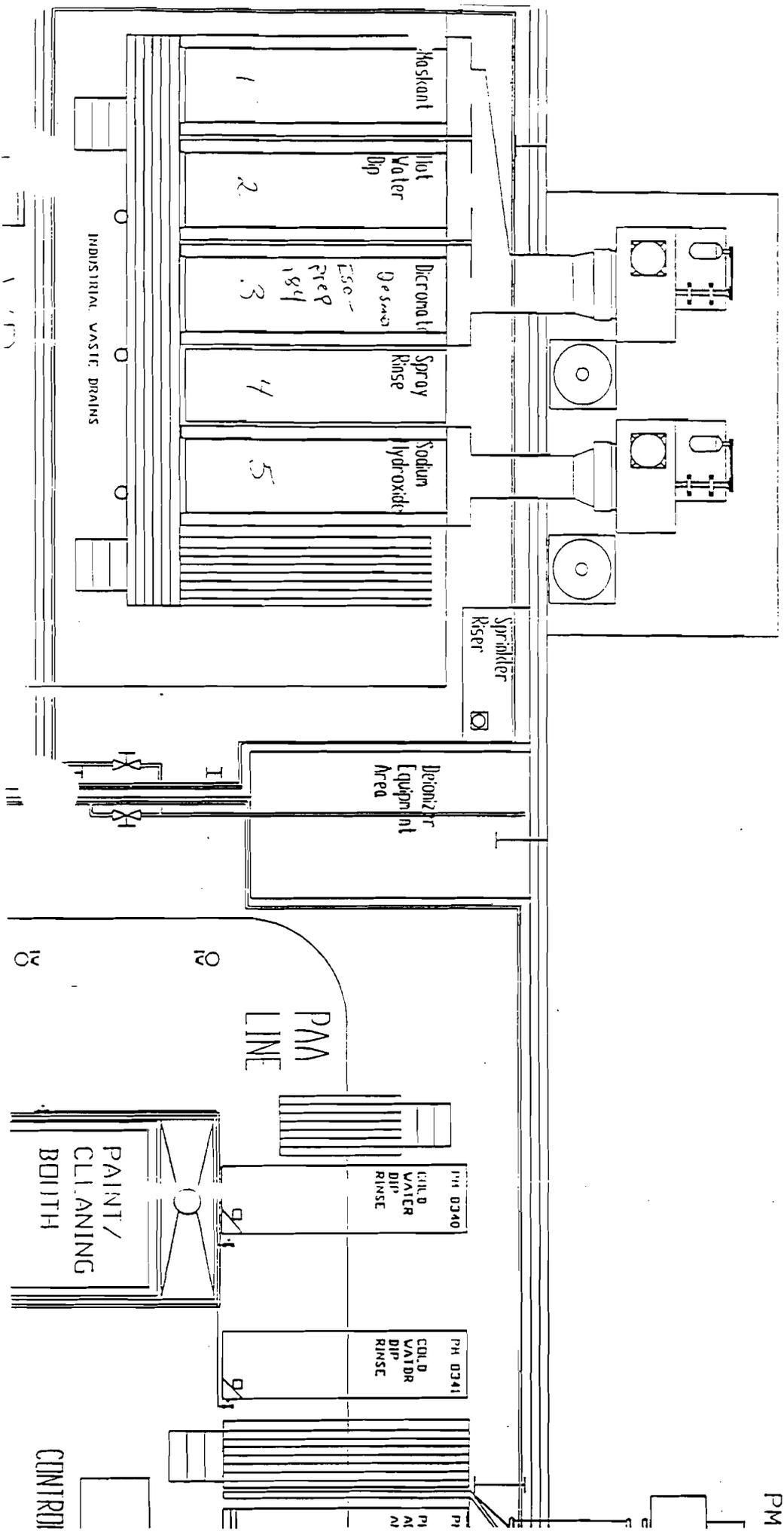
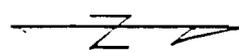
Thinning agent for this maskant is deionized water

Emissions from Sodium Hydroxide and Isoprep remain the same.

E. Annual Emissions Summary

	VOC	NaOH	Isoprep
Old Maskant	<i>11.85 tons</i> 23,702.8 lb	588.0 lb <i>0.30</i>	872.0 lb <i>0.44</i>
Test Maskant	<i>0.11</i> 221.8 lb	588.0 lb	872.0 lb

Chem-mill



4.2.4-106

ATCH 2



MEDICAL
BY APPOINTMENT



BUCHHEIM NO 490

TURCO PRODUCTS INC., 7300 BOLSA AVENUE, WESTMINSTER, CALIFORNIA 92664-3500

TURCOFORM[®] MASK 522

DIP AND FLOW COAT CHEM-MILL MASKANT

DESCRIPTION:

TURCOFORM[®] MASK 522 is a tan, liquid, single component, air curing, peelable protective coating formulated to provide protection against the corrosive action of hot caustic and acidic solutions used in the Chem-Mill processing of aluminum, magnesium, steel and titanium alloys.

TURCOFORM MASK 522 can be applied by immersion or flow coating methods and dries to a chemical resistant elastomeric film within 12 hours. TURCOFORM MASK 522 can be forced dried by conventional methods, after air drying for 2 to 3 hours at room temperature.

A top-coat of TURCOFORM MASK 550 is recommended for steel and titanium processing to provide additional protection against aggressive acid etchant solutions.

LIQUID PROPERTIES:

Appearance	Tan viscous liquid
Solids by wt.	34.5 ± 1%
Gallon weight	8.0# min.
Viscosity, Poise	15 ± 4
Flash Point (SETA)	40°F
Storage life @ 75°F	1 year min.

FILM PROPERTIES:

Tensile strength	900 psi min.
Elongation at rupture	475% min.
Peel Adhesion:	(pounds/in. width)

<u>Solvent wiped panels</u>	<u>Before etch</u>	<u>After etch</u>
2024-T3 Clad Aluminum	0.6 ± 0.3	1.3 max.

DIRECTIONS FOR USE:

- 1. Precleaning:** For optimum uniformity in adhesion and performance the parts to be masked must be free of oil, grease, dirt or corrosion. Your TURCO Territory Manager can recommend suitable TURCO cleaners based on specifications and production needs.
- 2. Mixing:** To assure reproducible results in application and performance of the TURCOFORM MASK 522, adequate mixing of the solution is very important prior to and during use. Caution must be exercised to prevent air from being drawn into the mask by the mixing action. Since some solvent is lost during use due to evaporation, periodic additions of thinner are required. The amount of thinner required is based on viscosity measurements. A #5 Zahn cup viscometer may be used to measure and adjust the maskant to the desired operating viscosity.

Extinguishing Media.....	WATER
Special Fire Fighting Procedures.....	FLOOD WITH WATER, DO NOT SPLASH OR SPLASH MATERIAL.
Unusual Fire/Explosion Hazards.....	NONCOMBUSTIBLE BUT SOLID FORM IN CONTACT WITH MOISTURE MAY GENERATE SUFFICIENT HEAT TO SEE SUP DATA
Stability.....	YES
Materials to Avoid.....	MOISTURE, METALS, EXPLOSIVES, ORGANIC PEROXIDES
Hazardous Decomposition Products.....	MAY GENERATE HYDROGEN GAS ON CONTACT WITH METALS
Hazardous Polymerization.....	NO
Effects of Overexposure.....	HIGHLY CORROSIVE ACTION UPON BODY TISSUE.
Emergency/First Aid Procedures.....	SPEED IN REMOVING THIS CAUSTIC MATERIAL IN CONTACT WITH SKIN IS OF VERY IMPORTANCE TO AVOID BURNS. REMOVE ALL CONTAMINATED CLOTHING AT ONCE AND GIVE SHOWER UNDER DELUGE TUBE OF WATER, IRRIGATE EYES WITH WARM WATER FOR AT LEAST 15 MINUTES.
Steps if Material Released/Spilled.....	COLLECT AND REMOVE WITH A BROOM IN A LARGE BUCKET. DILUTE WITH WATER AND NEUTRALIZE WITH 6M HCL. DRAIN INTO A SEWER WITH SUFFICIENT WATER.
Waste Disposal Method.....	PUT INTO A LARGE VESSEL CONTAINING WATER. NEUTRALIZE WITH 6M HCL. DISCHARGE INTO THE SEWER WITH SUFFICIENT WATER.
Handling & Storage Precautions.....	PROTECT AGAINST PHYSICAL DAMAGE OF CONTAINERS. STORE IN A DRY PLACE. PROTECT AGAINST MOISTURE. STORE SEPARATELY FROM ACIDS, METALS, OXIDIZING MATERIALS. AV
Other Precautions.....	AVOID SKIN CONTACT.
Respiratory Protection.....	NIOSH/MSHA APPROVED RESP DEVICE IN ACCORD WITH EXPOSURE OF CONCERN.
Ventilation.....	LOCAL/MECHANICAL
Protective Gloves.....	RUBBER
Eye Protection.....	GOGGLES
Other Protective Equipment.....	PLASTIC OVERALLS
Supplemental Health/Safety Data.....	IGNITE COMBUSTIBLE MATERIALS. CONTAINER SIZE: 1 LB BOTTLE

Ingredient (..... 01

4.2.4-109

ATCH 4-Z

Ingredient Name..... SODIUM HYDROXIDE (SARA III)
CAS Number..... 1310-73-2
EPA Number..... WB4900000
Proprietary..... NO
Purity..... >97
SHA PEL..... 2 MG/M3
CGIH TLV..... C 2 MG/M ; 9293

NOTICE: If you require a complete, unabbreviated MSDS,
call Bioenvironmental Engineering.

4.2.4-110

ATTACH 4-3

MATERIAL SAFETY DATA SHEET

Chem Name..... ISOPREP 18
 Part Number/Trade Name..... ISOPREP 18- SULFURIC ACID SOLUTION
 Additional Stock Number..... 6810PISOPREP184
 GE Code..... 99442
 Part Number Indicator..... A
 DS Number..... 12429

Manufacturer Name..... ALLIED-KEMITE
 Street..... 29111 MILFORD DR.
 City..... NEW HUDSON
 State..... MI
 Country..... US
 Zip Code..... 48165

Emergency Phone..... 800-424-9300
 Information Phone..... 313-437-8151

Date MSDS Prepared/Revised..... NONE
 Revision Indicator..... Y

Appearance/Odor..... AMBER BROWN / ACEDIC ODOR
 Boiling Point..... 238 DEG F
 Specific Gravity..... 1.43
 Solubility in Water..... FREELY
 Percent Volatiles by Volume..... 45
 Flash Point..... N/R
 Extinguishing Media..... USE WATER SPRAY, DRY CHEMICAL, CO2,
 Special Fire Fighting Procedures..... FIRE FIGHTERS SHOULD WEAR PROTECTIVE
 EQUIPMENT
 Usual Fire/Explosion Hazards..... NONE
 Flammability..... YES
 Materials to Avoid..... STRONG ACIDS
 Hazardous Decomposition Products..... N/R
 Hazardous Polymerization..... NO
 Polymerization Conditions to Avoid..... WILL NOT OCCUR
 LD50 - LD50 Mixture..... N/R
 Route of Exposure : Skin..... YES
 Route of Exposure : Inhalation..... YES

4.2.4-111

ATCH 5-1

Health Hazards - Acute & Chronic..... INHALATION CAUSE EYE, NOSE AND THROAT IRRITATION, PULMONARY EDEMA, AND BRONCHIAL EMPHYSEMA; BURNS SKIN AND EYES, AND CAUSES DENTAL EROSION. CORROSIVE : EYES AND SKIN AND INTERNAL ORGANS

carcinogenicity: NTP..... NO

carcinogenicity: IARC..... NO

carcinogenicity: OSHA..... NO

Symptoms of Overexposure..... SKIN AND EYE BURNS AND INTERNAL ORGANS

Medical Cond. Aggravated by Exposure... N/R

Emergency/First Aid Procedures..... [EYES] FLUSH WITH WATER FOR 15 MIN WHILE HOLDING EYE LIDS APART TO INSURE OF CLEAR

Steps if Material Released/Spilled..... DIKE SPILL AREA WITH INERT MATERIAL, COVER AND REMOVE AND PLACE INTO CONTAINER MARKED FOR DISPOSAL

Neutralizing Agent..... LIME

Waste Disposal Method..... DISPOSE OF IN ACCORDANCE TO ALL STATE AND FEDERAL LAWS

Respiratory Protection..... USE NIOSH APPROVED RESPIRATOR WHEN TLV LEVELS ARE EXCEEDED

Ventilation..... ;LOCAL OR GENERAL

Protective Gloves..... RUBBER

Eye Protection..... CHEMICAL GOGGLES

Work Hygienic Practices..... WASH WITH SOAP AND WATER AFTER HANDLING ANY CHEMICAL

Ingredient #..... 01

Ingredient Name..... POTASSIUM DICHROMATE

MSDS Number..... 7778-50-9

Proprietary..... NO

Ingredient #..... 02

Ingredient Name..... POTASSIUM FLUOBORATE

MSDS Number..... 14075-53-1

Proprietary..... NO

Ingredient #..... 03

Ingredient Name..... SODIUM BISULFATE

MSDS Number..... 7681-38-1

Proprietary..... NO

4.2.4-112

ATCH 5-2

MATERIAL SAFETY DATA SHEET

I. GENERAL INFORMATION

Trade Name: CAX-200, CAX-200+, CAX-100LA,
CAX-177, CAX-177+, CAX-200 R WATERBORNE
MASKANTS

Formula:

Proprietary mixture

Manufacturer:

Malek, Incorporated

Manufacturer's Phone Number:

619-279-0277

Manufacturer's Address:

4951 Ruffin Road
San Diego, CA 92123

Name of Preparer:

Malek, Incorporated

II. HAZARDOUS INGREDIENTS

Principal Hazardous Components	Composition (% by weight)	Exposure Limits in Air (give units)	
		ACGIH TLV	OSHA PEL
Styrene (CAS #100-42-5)	< 0.4	50 ppm (TWA) 100 ppm (ceiling)	100 ppm (TWA) 200 ppm (ceiling)
Toluene (CAS #108-88-3)	< 4	100 ppm (TWA) 150 ppm (STEL)	200 ppm (TWA) 300 ppm (STEL)
Sodium Dodecylbenzene Sulfonate (CAS #25155-30-0)	≤ 1.0	N/A	N/A
Water (CAS #7732-18-5)	~ 50	N/A	N/A
Proprietary Non-hazardous Solids	~ 48	N/A	N/A

III. PHYSICAL DATA

Boiling Point (°F): 212°F	Specific Gravity (H₂O = 1): 1.1 - 1.2
Vapor Pressure (mm Hg.) @ 20°C: 17 mm (water)	Evaporation Rate (butyl acetate = 1): Less than one
Vapor Density (Air = 1): Not Known	pH: 8.8 - 9.2

Solubility in Water: Miscible with water

Melting Point or Range, °F: Liquid at room temperature

Appearance & Odor: Liquid, mild odor

IV. FIRE AND EXPLOSION HAZARD DATA

Flash Point (Test Method): Not applicable

Auto Ignition Temperature: Not Applicable

Flammable Limits in Air, Volume %: Not applicable

LEL: N/A

UEL: N/A

Extinguishing Media: As this product is primarily aqueous, it is not a fire hazard. After water is evaporated the remaining solids could burn.

Water Spray Carbon dioxide

Foam Dry chemical

Special Fire Fighting Procedures: Wear NIOSH/MSHA approved self-contained breathing apparatus

Unusual Fire & Explosion Hazards: If residual solids are combusted, toxic and irritating gases will be generated.

V. HEALTH HAZARD DATA

SYMPTOMS OF EXPOSURE:

Ingestion

Ingestion is not a probable route of exposure. However, if ingested, this substance may cause gastrointestinal irritation, nausea, vomiting and diarrhea. The degree of irritation will depend on the quantity swallowed, and the speed and thoroughness of the first aid treatments.

Skin Irritation

This substance may cause skin irritation. Signs and symptoms may include discoloration and swelling.

Dermal Toxicity

The dermal toxicity of this substance has not been determined.

Inhalation

The inhalation toxicity of this substance has not been determined. However, it may cause irritation if inhaled. The degree of injury will depend on the airborne concentration and duration of exposure. Breathing toluene vapor concentrations above the recommended exposure standard can cause central nervous system effects. Signs and symptoms of central nervous system effects may include one or more of the following: headache, dizziness and loss of coordination.

Eye Contact	Direct contact with the liquid may result in severe irritation to the eyes and could cause impairment of vision. The degree of the injury will depend on the amount of material that gets into the eye and the speed and thoroughness of the first aid treatment. Signs and symptoms may include pain, tears, redness, and blurred vision.
-------------	--

SUSPECTED CARCINOGENIC AGENTS: Styrene has been listed by the International Agency for Research on Cancer (IARC) as Group 2B (possible human) carcinogens. This designation indicates there was strong evidence of carcinogenicity in animals, but limited evidence of carcinogenicity in humans. No significant amount of exposure is anticipated when good industrial hygiene practices are observed.

EMERGENCY FIRST AID:

Ingestion	Immediately consult a physician (report pH of product). Dilute by drinking water or milk. If vomiting occurs, aspiration (breathing) of vomit into the lungs must be avoided since it may lead to aspiration pneumonitis.
Skin Contact	Wash thoroughly with soap and water. Remove and wash contaminated clothing. Consult a physician if irritation develops.
Inhalation	Remove exposed person to fresh air. Treat symptoms of irritation if needed. Consult a physician if irritation persists.
Eyes	Flush thoroughly with water for several minutes. Consult a physician immediately.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:

a specific to product. Individuals with sensitive airways (e.g. asthmatics) may react to airborne vapors. Persons with preexisting skin conditions may have a reaction to contact with liquid product.

VI. REACTIVITY DATA

Stability		Unstable	Conditions to Avoid: None known
	X	Stable	
Incompatibility			Materials to Avoid: None known
Hazardous Polymerization		May Occur	Conditions to Avoid: None known
	X	Will Not Occur	

Hazardous Decomposition Products (including combustion products): CO₂, CO and small amounts of aromatic or aliphatic hydrocarbons can be generated from combustion of dried product.

VII. ENVIRONMENTAL PROTECTION PROCEDURES

Spill Response: Spilled material is slippery. Use an inert absorbent to contain the spill and to dry the area. An NIOSH/MHSA respirator should be worn as well as chemically resistant gloves. Place absorbed material in a closed container to await disposal.

Waste Disposal Method: Liquid product should not be disposed of in a landfill. Solids should be disposed of in accordance with all local, state and federal regulations.

VIII. SPECIAL PROTECTION INFORMATION

Eye Protection: Wear chemical safety goggles when product is sprayed, or when spills or splashing of product may occur.

Skin Protection: Water proof and chemically resistant gloves should be worn when working with product. Wear chemically resistant clothing when contact with liquid product is expected.

Respiratory Protection (Specific Type): Where airborne concentrations are expected to exceed limits, wear a NIOSH/MSHA air purifying respirator with an organic vapor cartridge or canister to provide protection appropriate for exposure to generated aerosols, mists and vapors containing chemicals listed in Section II.

Ventilation and Engineering Controls: Ventilation must be adequate to control aerosols, mists or vapors generated when using this product. Ventilation must be adequate to keep exposures below the limits listed in Section III.

IX. SPECIAL PRECAUTIONS

Hygienic Practices in Handling and Storage: Avoid skin and eye contact. Do not take internally. Employees should wash thoroughly after handling product. Employees should wash-up before eating, smoking or using toilet facilities. If clothing or shoes become contaminated, wash before reuse.

Precautions for Repair & Maintenance of Contaminated Equipment: Flush with water to clean product off of equipment.

Other Precautions: Do not freeze product. Do not store product above 90°F

X. FEDERAL REGULATIONS

Styrene, sodium dodecylbenzene sulfonate and toluene are present in concentrations that exceed the de minimis amount for the SARA Title III Section 313 and 40CFR372 annual release reporting requirements. You must transmit this information if you distribute this product to others.



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS OGDEN AIR LOGISTICS CENTER (AFMC)
HILL AIR FORCE BASE, UTAH

RECEIVED

MAR 07 1995

Air Quality

Mr Russell A. Roberts
Executive Secretary
Division of Air Quality
1950 West North Temple
PO Box 144820
Salt Lake City, UT 84114-4820

3 Mar 1995

RE: Notice of Intent to Setup a Chemical Milling Process Line in Building 238

Dear Mr Roberts

This letter is to serve as a Notice of Intent to setup a chemical milling process line in Building 238. The current chemical milling operation is a grandfathered source located in Building 265 which must be relocated. During the first 90 days of operation, we also request approval to test a new water based maskant in the process. If the results of this test are favorable, we will use the water based maskant in place of the solvent based maskant currently being used in Building 265. However, if the test is not successful, we request approval to continue using the present solvent based maskant at the new location until a lower VOC maskant can be found that meets the performance requirements. A report of the results comparing the two maskants will be made available upon completion of the test period.

The proposed project requires the installation of five 2000 gal dip tanks in Building 238, four of which will be exhausted to the outside (see Attachment 1, detailed process description and emissions estimate). The only difference between the two candidate processes is the type of maskant used. All equipment and other materials are the same.

Your prompt response to this matter would be greatly appreciated as we would like to begin testing the new maskant as soon as possible. Please contact Michael Graziano at 777-0359 if you require additional information.

Sincerely


JAMES R. VAN ORMAN
Director, Environmental Management

6 Attachments;

1. Process Description & Emissions Estimate
2. Project Layout
3. High VOC Maskant Tech Data Bulletin
4. MSDS Sodium Hydroxide
5. MSDS Isoprep
6. MSDS Low VOC Maskant

cc: LAOPE (John Vidic)
LARTW (Rich Trejos)

CHEMICAL MILLING PROCESS DESCRIPTION
AND EMISSIONS ESTIMATE

A. Install five new process tanks in building 238 (Proposed layout attachment 2)

- Tank #1 Maskant Dip, exhausted to outside
- Tank #2 Hot Water Dip, exhausted to outside
- Tank #3 Isoprep, exhausted to outside
- Tank #4 Water Spray Rinse
- Tank #5 Sodium Hydroxide, exhausted to outside

All dip tanks are 2000 gallons.

Slotted ventilation systems across the top of tanks 1, 2, and 3 will be manifolded together and exhausted through a 38" duct 60' above ground level.

The slotted ventilation system across the top of tank 5 will be exhausted through a 24" duct 60' above ground level.

B. The general process for each part is as follows;

1. Dip in Sodium Hydroxide, tank #5, for 30 seconds; flash cleaning.
2. Dip in Hot Rinse, tank #2.
3. Dip in Isoprep, tank #3; desmutting.
4. Spray Rinse in tank #4
5. Hang Dry
6. Dip in Maskant, tank #1.
7. Hang Dry 24 hours
8. Use template and cut away maskant from area to be milled.
9. Dip in Sodium Hydroxide tank #5, exposed metal areas are milled at 0.001 inch per minute.
10. Dip in Hot Rinse tank #2.
11. Dip in Isoprep tank #3, for cleaning.
12. Spray Rinse in tank #4.
13. Repeat steps 8-12 as needed to mill various areas to desired depths.

(Note: The process and materials are the same for both regardless of the maskant used.)

C. Emissions Estimate Grandfathered Process

Maskant (Tech Data Sheet Attachment 3)

Eight 55 gallon drums per year = 440 gallons
8.0 lbs per gallon = 3,520 lbs
from MSDS solids are 36%, therefore solvents are 64%

3,520 lbs of maskant/yr X 64% VOC = **2,252.8 lb VOC**

Thinner

Maskant must be thinned with 1 drum of solvent each week
 $52 \text{ drums/yr} \times 55 \text{ gal/drum} \times 7.5 \text{ lbs VOC/gal} = \mathbf{21,450 \text{ lbs VOC}}$

Sodium Hydroxide (MSDS Attachment 4)

Twelve 55 gallon drums per year = 660 gallons
Specific gravity = 2.12
therefore $8.4 \text{ lb water/gallon} \times 2.12 \times 660 \text{ gallons} = 11,753.3 \text{ lb NaOH}$
Engineering estimate for NaOH losses from process tanks is 5%
 $11,753.3 \text{ lb} \times .05 = \mathbf{588 \text{ lbs NaOH}}$

Isoprep (MSDS Attachment 5)

Four 55 gallon drums per year = 220 gallons
Specific gravity = 1.43
therefore $8.4 \text{ lb water/gal} \times 1.43 \times 220 \text{ gallons} = 2,642.6 \text{ lb Isoprep}$
Engineering estimate for Sulfuric Acid losses from process tanks is 33%
 $2,642.6 \text{ lb} \times .33 = \mathbf{872 \text{ lb Isoprep}}$

Emissions Summary Grandfathered Process

VOC Maskant	2,252.8 lbs	
VOC Thinners	21,450.0	
Total VOC	23,702.8	11.9 tons
Sodium Hydroxide	588.0	0.30 ton
Isoprep	872.0	0.44 ton

D. Emissions Estimate Experimental Process

Water based Maskant (MSDS Attachment 6)

Eight 55 gallon drums per year = 440 gallons
Specific Gravity = 1.2
therefore $8.4 \text{ lb water/gallon} \times 1.2 \times 440 \text{ gallons} = 4435.2 \text{ lb maskant}$
from MSDS solvent content is 5% so
 $4435.2 \text{ lb maskant} \times 5\% \text{ VOC} = \mathbf{221.8 \text{ lb VOC}}$

Thinning agent for this maskant is deionized water

Emissions from Sodium Hydroxide and Isoprep remain the same.

E. Annual Emissions Summary

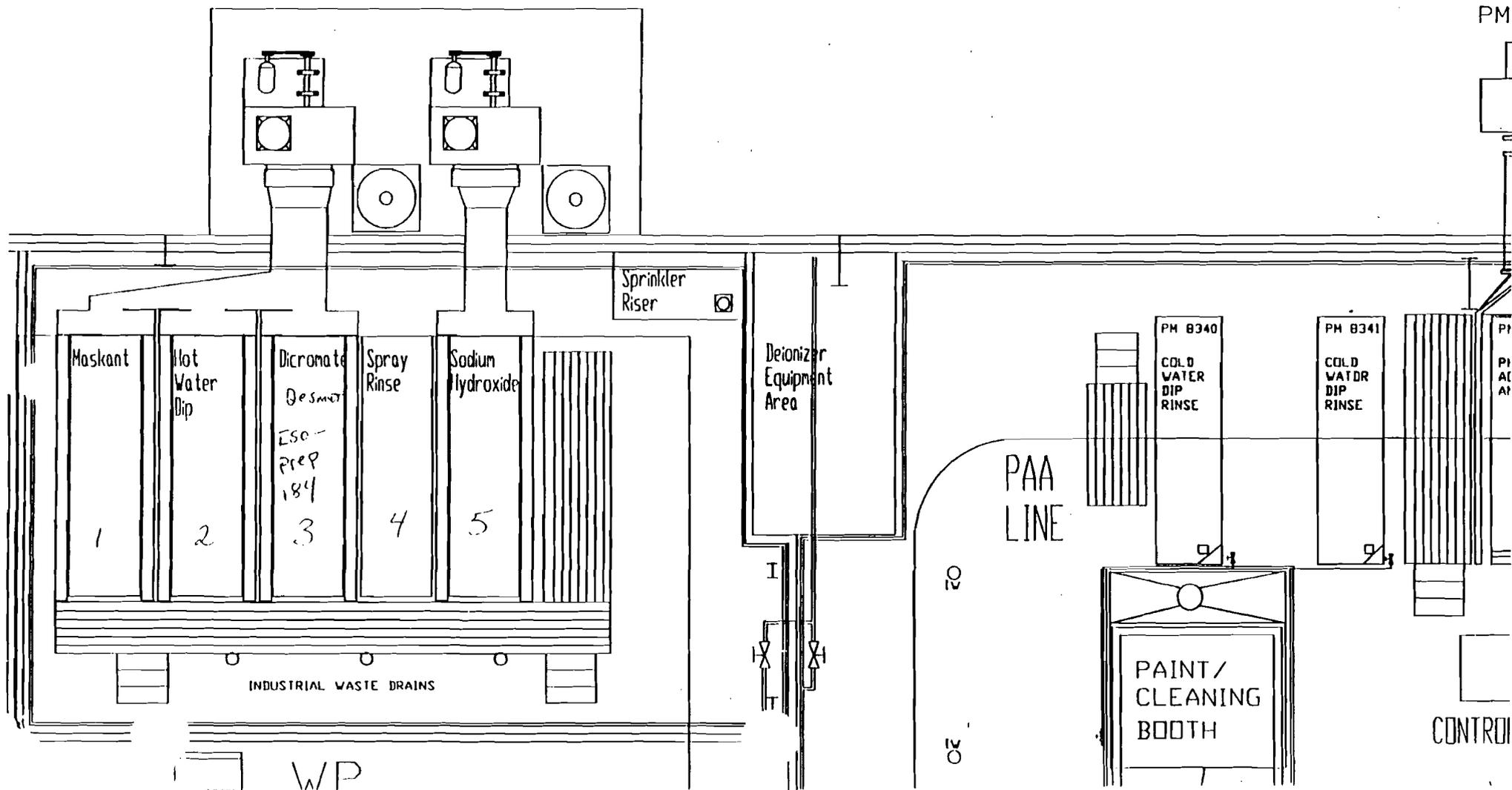
	VOC	NaOH	Isoprep
Old Maskant	23,702.8 lb	588.0 lb	872.0 lb
Test Maskant	221.8 lb	588.0 lb	872.0 lb

Chem-mill



4.2.4-122

ATCH 2



PM

Sprinkler Riser

Maskant

Hot Water Dip

Dicromate Desmet

Spray Rinse

Sodium Hydroxide

Deionizer Equipment Area

PM 8340
COLD WATER DIP RINSE

PM 8341
COLD WATER DIP RINSE

PAA LINE

PAINT / CLEANING BOOTH

CONTROL

INDUSTRIAL WASTE DRAINS

WP

02

30


TECHNICAL
DATA

BURBANK
NO. 490

TURCO PRODUCTS INC., 7300 BOLSA AVENUE, WESTMINSTER, CALIFORNIA 92684-3600

TURCOFORM® MASK 522

DIP AND FLOW COAT CHEM-MILL MASKANT

DESCRIPTION:

TURCOFORM® MASK 522 is a tan, liquid, single component, air curing, peelable protective coating formulated to provide protection against the corrosive action of hot caustic and acidic solutions used in the Chem-Mill processing of aluminum, magnesium, steel and titanium alloys.

TURCOFORM MASK 522 can be applied by immersion or flow coating methods and dries to a chemical resistant elastomeric film within 12 hours. TURCOFORM MASK 522 can be forced dried by conventional methods, after air drying for 2 to 3 hours at room temperature.

A top-coat of TURCOFORM MASK 550 is recommended for steel and titanium processing to provide additional protection against aggressive acid etchant solutions.

LIQUID PROPERTIES:

Appearance	Tan viscous liquid
Solids by wt.	34.5 ± 1%
Gallon weight	8.0# min.
Viscosity, Poise	15 ± 4
Flash Point (SETA)	40°F
Storage life @ 75°F	1 year min.

FILM PROPERTIES:

Tensile strength	900 psi min.
Elongation at rupture	475% min.
Peel Adhesion:	(pounds/in. width)

Solvent wiped panels
2024-T3 Clad Aluminum

Before etch
0.8 ± 0.3

After etch
1.3 max.

DIRECTIONS FOR USE:

- 1. Pre-cleaning:** For optimum uniformity in adhesion and performance the parts to be masked must be free of oil, grease, dirt or corrosion. Your TURCO Territory Manager can recommend suitable TURCO cleaners based on specifications and production needs.
- 2. Mixing:** To assure reproducible results in application and performance of the TURCOFORM MASK 522, adequate mixing of the solution is very important prior to and during use. Caution must be exercised to prevent air from being drawn into the mask by the mixing action. Since some solvent is lost during use due to evaporation, periodic additions of thinner are required. The amount of thinner required is based on viscosity measurements. A #5 Zahn cup viscometer may be used to measure and adjust the maskant to the desired operating viscosity.

MATERIAL SAFETY DATA SHEET

Item Name..... SODIUM HYDROXIDE, ACS
 Part Number/Trade Name..... SODIUM HYDROXIDE
 National Stock Number..... 6810000778570
 CAGE Code..... 70829
 Part Number Indicator..... A
 MSDS Number..... 89815

Manufacturer Name..... J.T.BAKER CHEMICAL CO
 Street..... 222 RED SCHOOL LANE
 City..... PHILLIPSBURG
 State..... NJ
 Country..... US
 Zip Code..... 08865-2219
 Emergency Phone..... 201-859-2151
 Information Phone..... 201-859-2151

Date MSDS Prepared/Revised..... PRE-HCS
 Date of Technical Review..... 27FEB84
 Active Indicator..... Y

Vendor #5 CAGE..... BCXNJ

Specification Number..... NOT APPLICABLE
 Specification Type/Grade/Class..... N/R
 Hazard Storage Compatibility Code..... C2
 NRC License Number..... N/R
 Net Propellant Weight (Ammo)..... N/R

Appearance/Odor..... WHITE, DELIQUESCENT PIECES, LUMPS OR
 STICKS.
 Boiling Point..... 2534F, 1390C
 Melting Point..... UNKNOWN
 Vapor Pressure..... N/R
 Vapor Density..... N/R
 Specific Gravity..... 2.120
 Decomposition Temperature..... UNKNOWN
 Evaporation Rate..... N/R
 Solubility in Water..... APPRECIABLE
 Chemical PH..... N/K
 Flash Poi..... NONE

4.2.4-124

ΔΤΠ Δ-1

Extinguishing Media.....	WATER
Special Fire Fighting Procedures.....	FLOOD WITH WATER, DO NOT SPLASH OR SPLASH MATERIAL
Unusual Fire/Explosion Hazards.....	NONCOMBUSTIBLE BUT SOLID FORM IN CONTACT WITH MOISTURE MAY GENERATE SUFFICIENT HEAT TO SEE SUP DATA
Stability.....	YES
Materials to Avoid.....	MOISTURE, METALS, EXPLOSIVES, ORGANIC PEROXIDES
Hazardous Decomposition Products.....	MAY GENERATE HYDROGEN GAS ON CONTACT WITH METALS
Hazardous Polymerization.....	NO
Symptoms of Overexposure.....	HIGHLY CORROSIVE ACTION UPON BODY TISSUE.
Emergency/First Aid Procedures.....	SPEED IN REMOVING THIS CAUSTIC MATERIAL IN CONTACT WITH SKIN IS OF VERY IMPORTANCE TO AVOID BURNS. REMOVE ALL CONTAMINATED CLOTHING AT ONCE AND GIVE SHOWER UNDER DELUGE TUBE OF WATER, IRRIGATE EYES WITH WARM WATER FOR AT LEAST 15 MINUTES.
Steps if Material Released/Spilled.....	COLLECT AND REMOVE WITH A BROOM IN A LARGE BUCKET. DILUTE WITH WATER AND NEUTRALIZE WITH 6M HCL. DRAIN INTO A SEWER WITH SUFFICIENT WATER.
Waste Disposal Method.....	PUT INTO A LARGE VESSEL CONTAINING WATER. NEUTRALIZE WITH 6M HCL. DISCHARGE INTO THE SEWER WITH SUFFICIENT WATER.
Handling & Storage Precautions.....	TECT AGAINST PHYSICAL DAMAGE OF CONTAINERS. STORE IN A DRY PLACE. PROTECT AGAINST MOISTURE. STORE SEPARATELY FROM ACIDS, METALS, OXIDIZING MATERIALS. AV
Other Precautions.....	AVOID SKIN CONTACT.
Respiratory Protection.....	NIOSH/MSHA APPROVED RESP DEVICE IN ACCORD WITH EXPOSURE OF CONCERN.
Ventilation.....	LOCAL/MECHANICAL
Protective Gloves.....	RUBBER
Eye Protection.....	GOGGLES
Other Protective Equipment.....	PLASTIC OVERALLS
Supplemental Health/Safety Data.....	IGNITE COMBUSTIBLE MATERIALS. CONTAINER SIZE: 1 LB BOTTLE

Ingredient " 01

4.2.4-125

ATCH 4-Z

Chemical Name..... SODIUM HYDROXIDE (SARA III)
CAS Number..... 1310-73-2
NIOSH Number..... WB4900000
Proprietary..... NO
Percent..... >97
OSHA PEL..... 2 MG/M3
ACGIH TLV..... C 2 MG/M3; 9293

NOTICE: If you require a complete, unabbreviated MSDS,
call Bioenvironmental Engineering.

4.2.4-126

ATCH 4-3

MATERIAL SAFETY DATA SHEET

Item Name..... ISOPREP 184
 Part Number/Trade Name..... ISOPREP 184 SULFURIC ACID SOLUTION
 National Stock Number..... 6810PISOPREP184
 HAZARD Code..... 99442
 Part Number Indicator..... A
 SDS Number..... 12429

Manufacturer Name..... ALLIED-KELITE
 Street..... 29111 MILFORD DR.
 City..... NEW HUDSON
 State..... MI
 Country..... US
 Zip Code..... 48165

Emergency Phone..... 800-424-9300
 Information Phone..... 313-437-8161

Date MSDS Prepared/Revised..... NONE
 Active Indicator..... Y

Appearance/Odor..... AMBER BROWN / ACEDIC ODOR
 Boiling Point..... 238 DEG F
 Specific Gravity..... 1.43
 Solubility in Water..... FREELY
 Percent Volatiles by Volume..... 45
 Flash Point..... N/R
 Extinguishing Media..... USE WATER SPRAY, DRY CHEMICAL, CO2,
 Special Fire Fighting Procedures..... FIRE FIGHTERS SHOULD WEAR PROTECTIVE
 EQUIPMENT
 Unusual Fire/Explosion Hazards..... NONE
 Stability..... YES
 Materials to Avoid..... STRONG ACIDS
 Hazardous Decomposition Products..... N/R
 Hazardous Polymerization..... NO
 Polymerization Conditions to Avoid..... WILL NOT OCCUR
 D50 - LD50 Mixture..... N/R
 Route of Entry: Skin..... YES
 Route of Entry: Inhalation..... YES

4.2.4-127

Attn 5-1

Health Hazards - Acute & Chronic..... INHALATION CAUSES EYE, NOSE AND THROAT IRRITATION, PULMONARY EDEMA, AND BRONCHIAL EMPHYSEMA; BURNS SKIN AND EYES, AND CAUSES DENTAL EROSION. CORROSIVE TO EYES AND SKIN AND INTERNAL ORGANS

Carcinogenicity: NTP..... NO

Carcinogenicity: IARC..... NO

Carcinogenicity: OSHA..... NO

Symptoms of Overexposure..... SKIN AND EYE BURNS AND INTERNAL ORGANS

Medical Cond. Aggravated by Exposure... N/R

Emergency/First Aid Procedures..... [EYES] FLUSH WITH WATER FOR 15 MIN WHILE HOLDING EYE LIDS APART TO INSURE OF CLEAR VISION

What to do if Material Released/Spilled..... DIKE SPILL AREA WITH INERT MATERIAL, COVER AND REMOVE AND PLACE INTO CONTAINER MARKED FOR DISPOSAL

Neutralizing Agent..... LIME

Waste Disposal Method..... DISPOSE OF IN ACCORDANCE TO ALL STATE AND FEDERAL LAWS

Respiratory Protection..... USE NIOSH APPROVED RESPIRATOR WHEN TLV LEVELS ARE EXCEEDED

Ventilation..... ;LOCAL OR GENERAL

Protective Gloves..... RUBBER

Eye Protection..... CHEMICAL GOGGLES

Work Hygienic Practices..... WASH WITH SOAP AND WATER AFTER HANDLING ANY CHEMICAL

Ingredient #..... 01

Ingredient Name..... POTASSIUM DICHROMATE

AS Number..... 7778-50-9

Proprietary..... NO

Ingredient #..... 02

Ingredient Name..... POTASSIUM FLUOBORATE

AS Number..... 14075-53-7

Proprietary..... NO

Ingredient #..... 03

Ingredient Name..... SODIUM BISULFATE

AS Number..... 7681-38-1

Proprietary..... NO

4.2.4-128

ATTCH 5-2

MATERIAL SAFETY DATA SHEET

I. GENERAL INFORMATION

Trade Name: CAX-200, CAX-200+, CAX-100LA, CAX-177, CAX-177+, CAX-200 R WATERBORNE MASKANTS	Formula: Proprietary mixture
Manufacturer: Malek, Incorporated	Manufacturer's Phone Number: 619-279-0277
Manufacturer's Address: 4951 Ruffin Road San Diego, CA 92123	Name of Preparer: Malek, Incorporated

II. HAZARDOUS INGREDIENTS

Principal Hazardous Components	Composition (% by weight)	Exposure Limits in Air (give units)	
		ACGIH TLV	OSHA PEL
Styrene (CAS #100-42-5)	< 0.4	50 ppm (TWA) 100 ppm (ceiling)	100 ppm (TWA) 200 ppm (ceiling)
Toluene (CAS #108-88-3)	< 4	100 ppm (TWA) 150 ppm (STEL)	200 ppm (TWA) 300 ppm (STEL)
Sodium Dodacylbenzene Sulfonate (CAS #25155-30-0)	≤ 1.0	N/A	N/A
Water (CAS #7732-18-5)	-50	N/A	N/A
Proprietary Non-hazardous Solids	-48	N/A	N/A

III. PHYSICAL DATA

Boiling Point (°F): 212°F	Specific Gravity (H₂O = 1): 1.1 - 1.2
Vapor Pressure (mm Hg.) @ 20°C: 17 mm (water)	Evaporation Rate (butyl acetate = 1): Less than one
Vapor Density (Air = 1): Not Known	pH: 8.8 - 9.2

Solubility in Water: Miscible with water	Melting Point or Range, °F: Liquid at room temperature
Appearance & Odor: Liquid, mild odor	

IV. FIRE AND EXPLOSION HAZARD DATA

Flash Point (Test Method): Not applicable	Auto Ignition Temperature: Not Applicable	
Flammable Limits in Air, Volume %: Not applicable	LEL: N/A	UEL: N/A
Extinguishing Media: As this product is primarily aqueous, it is not a fire hazard. After water is evaporated the remaining solids could burn.		
<input checked="" type="checkbox"/> Water Spray	<input type="checkbox"/> Carbon dioxide	
<input checked="" type="checkbox"/> Foam	<input checked="" type="checkbox"/> Dry chemical	
Special Fire Fighting Procedures: Wear NIOSH/MSHA approved self-contained breathing apparatus		
Unusual Fire & Explosion Hazards: If residual solids are combusted, toxic and irritating gasses will be generated.		

V. HEALTH HAZARD DATA

SYMPTOMS OF EXPOSURE:	
Ingestion	Ingestion is not a probable route of exposure. However, if ingested, this substance may cause gastrointestinal irritation, nausea, vomiting and diarrhea. The degree of irritation will depend on the quantity swallowed, and the speed and thoroughness of the first aid treatments.
Skin Irritation	This substance may cause skin irritation. Signs and symptoms may include discoloration and swelling.
Dermal Toxicity	The dermal toxicity of this substance has not been determined.
Inhalation	The inhalation toxicity of this substance has not been determined. However, it may cause irritation if inhaled. The degree of injury will depend on the airborne concentration and duration of exposure. Breathing toluene vapor concentrations above the recommended exposure standard can cause central nervous system effects. Signs and symptoms of central nervous system effects may include one or more of the following: headache, dizziness and loss of coordination.

Eye Contact	Direct contact with the liquid may result in severe irritation to the eyes and could cause impairment of vision. The degree of the injury will depend on the amount of material that gets into the eye and the speed and thoroughness of the first aid treatment. Signs and symptoms may include pain, tears, redness, and blurred vision.
-------------	--

SUSPECTED CARCINOGENIC AGENTS: Styrene has been listed by the International Agency for Research on Cancer (IARC) as Group 2B (possible human) carcinogens. This designation indicates there was strong evidence of carcinogenicity in animals, but limited evidence of carcinogenicity in humans. No significant amount of exposure is anticipated when good industrial hygiene practices are observed.

EMERGENCY FIRST AID:

Ingestion	Immediately consult a physician (report pH of product). Dilute by drinking water or milk. If vomiting occurs, aspiration (breathing) of vomit into the lungs must be avoided since it may lead to aspiration pneumonitis.
-----------	---

Skin Contact	Wash thoroughly with soap and water. Remove and wash contaminated clothing. Consult a physician if irritation develops.
--------------	---

Inhalation	Remove exposed person to fresh air. Treat symptoms of irritation if needed. Consult a physician if irritation persists.
------------	---

Eyes	Flush thoroughly with water for several minutes. Consult a physician immediately.
------	---

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:

ie specific to product. Individuals with sensitive airways (e.g. asthmatics) may react to airborne vapors. Persons with preexisting skin conditions may have a reaction to contact with liquid product.

VI. REACTIVITY DATA

Stability		Unstable	Conditions to Avoid: None known
	X	Stable	
Incompatibility	Materials to Avoid: None known		
Hazardous Polymerization		May Occur	Conditions to Avoid: None known
	X	Will Not Occur	

Hazardous Decomposition Products (including combustion products): CO₂, CO and small amounts of aromatic or aliphatic hydrocarbons can be generated from combustion of dried product.

VII. ENVIRONMENTAL PROTECTION PROCEDURES

Spill Response: Spilled material is slippery. Use an inert absorbent to contain the spill and to dry the area. An approved NIOSH/MHSA respirator should be worn as well as chemically resistant gloves. Place absorbed material in a closed container to await disposal.

Waste Disposal Method: Liquid product should not be disposed of in a landfill. Solids should be disposed of in accordance with all local, state and federal regulations.

VIII. SPECIAL PROTECTION INFORMATION

Eye Protection: Wear chemical safety goggles when product is sprayed, or when spills or splashing of product may occur.

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Hygienic Practices in Handling and Storage: Avoid skin and eye contact. Do not take internally. Employees should wash thoroughly after handling product. Employees should wash-up before eating, smoking or using toilet facilities. If clothing or shoes become contaminated, wash before reuse.

Precautions for Repair & Maintenance of Contaminated Equipment: Flush with water to clean product off of equipment.

Other Precautions: Do not freeze product. Do not store product above 90°F

X. FEDERAL REGULATIONS

Styrene, sodium dodecylbenzene sulfonate and toluene are present in concentrations that exceed the de minimis amount for the SARA Title III Section 313 and 40CFR372 annual release reporting requirements. You must transmit this information if you distribute this product to others.

XI. STATE REGULATIONS

WARNING: SUBSTANCES KNOWN TO THE STATE OF CALIFORNIA TO CAUSE REPRODUCTIVE TOXICITY:

Toluene (CAS #108-88-3)

While the information contained herein is believed to be correct, Malek, Incorporated shall in no event be responsible for any damages whatsoever, directly or indirectly, resulting from the publication or use of or reliance upon data contained herein. No warranty, either expressed or implied, of merchantability, of fitness, or of any nature with respect to the product, or to the data is made herein.

4.2.4-133