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Ciba-Geigy Corporation
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8EHQ-0993-12640

September 22, 1993

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EXPRESS MAIL
RETURN RECEIPT REQUESTED



8EHQ-93-12640
INIT 09/27/93



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Document Processing Center (TS-790)
(Attn.: Section 8(e) Coordinator)
Office of Pollution Prevention and Toxics
Environmental Protection Agency
401 M Street, SW
Washington, DC 20460

RE.: TSCA 8(e) Notice; Human Exposure to 4-Chloroaniline and 4-Chloroaniline Sulfate Impurity

Dear Section 8(e) Coordinator:

Ciba-Geigy Corporation (Ciba) claims no information in this letter as Confidential Business Information.

In accordance with EPA's March 16, 1978, policy statement on Section 8(e) reporting under the Toxic Substances Control Act, and EPA's June 1991 TSCA Section 8(e) Reporting Guide, Ciba wishes to bring to the attention of the Environmental Protection Agency human health effects observed in a 57 year old male plant worker after exposure to a mixture of waste recovery bottoms containing, inter alia, an unknown concentration of 4-chloroaniline (CAS Registry No. 106-47-8) and 4-chloroaniline sulfate (CAS Registry No. 93858-54-9). The exposure incident occurred over a period of approximately 6.5 hours on the September 6 evening shift (3 - 11 p.m.), at Ciba's Newport Delaware plant, during cleaning of a plugged pipeline and floor drains.

A maintenance mechanic working overtime on the evening shift relieved another mechanic who had been unplugging solid residue from a pipeline containing sulfuric acid and organic process impurities. One of the impurities in the residue was the salt, 4-chloroaniline sulfate. This salt was incidentally created during the cleaning of process solvents, due to the presence of para-chloroaniline in the process stream prior to the sulfuric acid treatment. The salt eventually goes out into the waste stream to be treated. We believe the major component of the pipeline residue to have been 4-chloroaniline sulfate. Several other impurities, including 4-chloroaniline, may also have been present.

The mechanic had performed this job three to four times previously and was wearing protective equipment for handling spent acid. This included a rubber suit with hood and neoprene rubber gloves. Instead of the standard neoprene rubber boots specified in the procedure for the cleaning operation, however, the mechanic wore leather boots. He used a cold water lance to free blockages

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in sections of the pipeline. This material collected on the floor and eventually plugged the floor drains. The mechanic's shoes and socks became soaked during the cleaning operation allowing direct dermal contact with aqueous/organic residues and allowing entry of chemical substances into the body. Additionally, vapor inhalation to 4-chloroaniline may have occurred when the mechanic later used a steam lance to unplug the residue blocking the floor drains.

After the cleaning job was done and his shift was over, the exposed man was found by his coworkers lying down on a bench in the change room with glassy eyes, blue skin color, complaining about dizziness (he later stated that he felt bilateral arm burning and pressure, chest pressure, and profound fatigue with onset approximately two hours prior to going to the change house). His coworkers initiated a 911 emergency call immediately and rescue work started. The symptoms were: respiratory depression and seizure on the way to the hospital; he also had dysrhythmias (ventricular tachycardia) and a loss of blood pressure requiring treatment with antiarrhythmic and vasopressors. He was also intubated and placed on a ventilator. Admitting laboratory data indicated a methemoglobin level of approximately 70% and global ischemia by EKG. The patient was treated for the methemoglobinemia with methylene blue and, within a few hours, the level had gone down to approximately 25%. He was stabilized and taken off the ventilator in less than 24 hours. Subsequent enzyme studies confirmed that he had suffered a non-Q wave (subendo) myocardial infarction.

The patient was discharged from the hospital on September 14 at 8:00 a.m.. He will be convalescing at home for at least six weeks and be reevaluated in early November. The man is expected to recover from the mild heart attack. His activity level will depend upon subsequent stress testing. He is expected to return to active work eventually, but will be closely supervised and monitored with respect to any work activities and chemical exposures.

Please call the undersigned if you have any questions about this submittal.

Very truly yours,



Anthony Di Battista



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

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OFFICE OF
PESTICIDES AND TOXIC
SUBSTANCES

JAN 18 1994

This letter formally acknowledges EPA's receipt of information submitted by your organization under Section 8(e), the "substantial risk" information reporting provision of the Toxic Substances Control Act (TSCA). For your reference, copies of the first page(s) of your submission(s) are enclosed and display the TSCA Section 8(e) Document Control Number (i.e., 8EHQ-0000-0000 Init.) assigned by EPA to your submission(s). Please refer to this cited number when submitting follow-up or supplemental information.

Please note that all submitted correspondence will be placed in the public files unless confidentiality is claimed according to the procedures outlined in Part X of EPA's TSCA Section 8(e) policy statement (43 FR 11110, March 16, 1978).

Confidential submissions submitted pursuant to the TSCA Section 8(e) Compliance Audit Program (CAP) should already contain information supporting confidentiality claims, because substantiation of CBI claims is required at the same time the 8(e) CAP is submitted to EPA. (If not done so already, please ensure that this information is provided to the Agency). When substantiating any/all claims, answer the questions detailed in the following attachment.

For NON-CAP submissions, any confidentiality claims should be supported by submission of information as described in the attachment(s).

12640 A

CECATEM TRIAGE TRACKING DBASE ENTRY FORM

CHCATS DATA: Submission # 8EIQ. 0993-12640 SEQ. A

INFORMATION REQUESTED: FLWP DATE: 0501 NO INFO REQUESTED

0502 INFO REQUESTED (TECH)
0503 INFO REQUESTED (VOL ACTIONS)
0504 INFO REQUESTED (REPORTING RATIONALE)

VOLUNTARY ACTIONS:
0401 NO ACTION REPORTED
0402 STUDIES PLANNED/UNDERWAY
0403 NOTIFICATION OF WORKER/OTHERS
0404 LABEL/MSDS CHANGES
0405 PROCESS/HANDLING CHANGES
0406 APP/USE DISCONTINUED
0407 PRODUCTION DISCONTINUED
0408 CONFIDENTIAL

TYPE: INT SUPP FLWP
SUBMITTER NAME: Ciba-Geigy Corporation

DISPOSITION:
0639 REFER TO CHEMICAL SCREENING
0678 CAP NOTICE

SUB. DATE: 09/22/93 OTS DATE: 09/27/93 CSRAD DATE: 10/05/93

CHEMICAL NAME: Sulfate, 4-chloroaniline
CAS# 106-47-8
93858-54-9

| INFORMATION TYPE: | P | F | C | INFORMATION TYPE: | P | F | C |
|-------------------------------|----|----|----|--------------------------------|----|----|----|
| 0201 ONCO (HUMAN) | 01 | 02 | 04 | 0216 EPI/C ₁ IN | 01 | 02 | 04 |
| 0202 ONCO (ANIMAL) | 01 | 02 | 04 | 0217 HUMAN EXPOS (PROD CONTAM) | 01 | 02 | 04 |
| 0203 CELL TRANS (IN VITRO) | 01 | 02 | 04 | 0218 HUMAN EXPOS (ACCIDENTAL) | 01 | 02 | 04 |
| 0204 MUTA (IN VITRO) | 01 | 02 | 04 | 0219 HUMAN EXPOS (MONITORING) | 01 | 02 | 04 |
| 0205 MUTA (IN VIVO) | 01 | 02 | 04 | 0220 ECO/AQUA TOX | 01 | 02 | 04 |
| 0206 REPRO/ITERATO (HUMAN) | 01 | 02 | 04 | 0221 ENV. OCCUREL/FATE | 01 | 02 | 04 |
| 0207 REPRO/ITERATO (ANIMAL) | 01 | 02 | 04 | 0222 EMER INCI OF ENV CONTAM | 01 | 02 | 04 |
| 0208 NEURO (HUMAN) | 01 | 02 | 04 | 0223 RESPONSE REQEST DELAY | 01 | 02 | 04 |
| 0209 NEURO (ANIMAL) | 01 | 02 | 04 | 0224 PROD/COMP/CHEM ID | 01 | 02 | 04 |
| 0210 ACUTE TOX. (HUMAN) | 01 | 02 | 04 | 0225 REPORTING RATIONALE | 01 | 02 | 04 |
| 0211 CHIR. TOX. (HUMAN) | 01 | 02 | 04 | 0226 CONFIDENTIAL | 01 | 02 | 04 |
| 0212 ACUTE TOX. (ANIMAL) | 01 | 02 | 04 | 0227 ALLERG (HUMAN) | 01 | 02 | 04 |
| 0213 SUB ACUTE TOX (ANIMAL) | 01 | 02 | 04 | 0228 ALLERG (ANIMAL) | 01 | 02 | 04 |
| 0214 SUB CHRONIC TOX (ANIMAL) | 01 | 02 | 04 | 0239 METAB/PHARMACO (ANIMAL) | 01 | 02 | 04 |
| 0215 CHRONIC TOX (ANIMAL) | 01 | 02 | 04 | 0240 METAB/PHARMACO (HUMAN) | 01 | 02 | 04 |
| | | | | 0241 IMMUNO (ANIM L) | 01 | 02 | 04 |
| | | | | 0242 IMMUNO (HUMAN) | 01 | 02 | 04 |
| | | | | 0243 CHEM/PHYS PROP | 01 | 02 | 04 |
| | | | | 0244 CLASTO (IN VITRO) | 01 | 02 | 04 |
| | | | | 0245 CLASTO (ANIMAL) | 01 | 02 | 04 |
| | | | | 0246 CLAS TO (HUMAN) | 01 | 02 | 04 |
| | | | | 0247 DNA DAM/REPAIR | 01 | 02 | 04 |
| | | | | 0248 PROD/USE/PROC | 01 | 02 | 04 |
| | | | | 0251 MSDS | 01 | 02 | 04 |
| | | | | 0299 OTHER | 01 | 02 | 04 |

| TRIAJE DATA | NON-CBI INVENTORY | ONGOING RELEV | SPECIES | TOXICOLOGICAL CONCERN: | USE | PRODUCTION: |
|------------------|-------------------|---------------|---------|------------------------|-----|-------------|
| YES (CONTINUE) | YES (DROP/REFER) | HMN | LOW | | | |
| NO (DROP) | NO (CONTINUE) | | MED | | | |
| <u>DETERMINE</u> | REFER: | | HIGH | | | |

COMMENTS: Non-Cat