CB - Let's have GWB keep track of this up. Carl

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To: Plant Superintendents

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RAW MATERIAL IDENTIFICATION

The lack of positive ID of raw materials has been a leading cause of reactive chemical incidents. The efforts of Dow personnel are paying off -- in 1990 there were 21 incidents within the company that were attributed to no positive ID of materials and in 1993 there were only 8. To maintain this trend, constant diligence is required and each plant should have an effective raw materials identification policy.

Attached is a "Guideline for a Raw Material Identification Program" prepared by the Reactive Chemicals Committee at our Fort Saskatchewan plant. Perhaps you could use this as a model to develop or improve your plant's policy. The purpose is to help ensure that no uncontrolled or accidental chemical reaction occurs as a result of "lack of identification of a raw material."

The Reactive Chemical requirement for performing positive ID analyses of raw materials is strictly a function of risk. If receiving and using the wrong material poses an acceptable risk with insignificant reactive chemicals hazards then positive ID testing is not required. One example of low risk may be the receipt and use of Betz water treating chemicals for cooling towers. To evaluate this risk a reactive chemicals review should be conducted with all involved personnel including knowledgeable Betz personnel.

If you need assistance in this area or if you want the Reactive Chemicals Committee to review some of your positive ID concerns, please do not hesitate to call.

Gerald Wagener

Gerald Wagener, Chairman
Reactive Chemicals Committee

attach.

WESTERN CANADA DIVISION

GUIDELINE FOR A

RAW MATERIAL IDENTIFICATION PROGRAM

RAW MATERIAL IDENTIFICATION GUIDE

1. Introduction

The lack of positive identification of materials has been a leading cause of reactive chemical incidents. The reasons for incidents have been many:

- failure to identify the contents of a container before unloading
- failure to identify the level of critical impurities or additives in a raw material or product,
- failure to read the container label or paperwork correctly,
- no label or inadequate label on container.

The purpose of a raw material identification program is to ensure that no uncontrolled or accidental chemical reactions occur as a result of lack of identification of raw materials or hazardous impurities.

2. Scope

This guideline outlines the main elements of an effective raw material identification program.

The guideline is intended primarily to cover chemical raw materials and should include maintenance materials of a chemical nature where these materials, in use, have the potential to mix with other chemicals or where the incorrect maintenance material could cause a critical failure.

3. Responsibility

It is the responsibility of the owner of a process to ensure identification of raw materials used in his/her process.

4. Elements of a Raw Material Identification Program

4.1 Risk Evaluation

In general terms the degree of sophistication of any method chosen to positively identify a chemical raw material will depend upon our perception of the risk involved. Evaluating risk requires consideration of three basic factors:

* likelihood of contamination or substitution
* frequency of receiving
* consequence of contamination or substitution

The following steps are suggested to complete the risk evaluation:

a) Develop an inventory of raw materials - this inventory could be itemized under the broad categories of:

i) pipeline deliveries
ii) bulk - T/T and T/C
iii) drums, bags, cylinders
iv) small containers - reagent bottles, lecture bottles, mini-drums, etc.

The inventory should include a Manufacturer's Safety Data Sheet (MSDS) for each raw material.

b) Likelihood considerations:

i) security of supply - eg. dedicated pipelines, materials received with a certificate of analysis might be judged to have a high security of supply rating.

ii) possibility of contamination or complete substitution.

iii) history and nature of process.

iv) possibility of mix-up while in Dow inventory.

c) Frequency of Receiving - This may range from once every few years for some lab reagents to continuous receiving in the case of a material which is delivered by pipeline into a continuous process.

d) Consequence

i) quantities and relative stability of materials which could possibly be involved.

ii) concentration at which contaminants are hazardous.

4.2 Control Procedures

a) Identification Plan

Each material in the inventory should be assigned an identification plan. The decision on the type of identification required would be documented in the unit Reactive Chemical manual. Typical plans might be as follows:

i) specific test which will positively identify the material and distinguish it from similar materials or will identify critical impurities or additives.

ii) certificate of anelysis - eg.: reagent grade chemicals.

iii) visual check - examine material, read label.

b) Development and documentation of required tests - Research end Development resource people can and should be consulted as required.

c) Operating discipline to ensure tests are conducted.

d) Operating discipline to ensure correct procedures ere followed in the event a test is failed.

e) Documentation of test results and records retention.

5. General Guidelines

5.1 Because the possibility for substitution exists end because of the large quantities involved, positive identification of all bulk shipments, drum, bag and cylinder lots is strongly recommended.

5.2 Testing of drum, bag and cylinders should be conducted on a representative sample or samples from each lot number.

5.3 Adequate segregation or separation of different raw materials after identification should be considered to avoid mix-ups when these materials are transferred to process.

5.4 The division reactive chemicals specialist and the testing resources in R&D are available to assist owners in the implementation of this guideline.

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RAW MATERIAL IDENTIFICATION GUIDE

*NOTE: The Reactive Chemicals Coordinator Task Force formed to write the raw materials testing guideline strongly recommend that raw materials testing initially be audited on site independently of other audits. Raw material testing should be audited annually for two years once the guideline is accepted by S.A.P.C. Thereafter raw material testing could be audited as part of the biannual Reactive Chemicals review.

Initially incorporate Raw Materials Identification audit in S.A.P.C. audit format.