MONSANTO CHEMICAL COMPANY

Inter-Office Correspondence

FROM LOCATION: General Offices

CC:

DATE: October 2, 1959

SUBJECT: KRUMMRICH PLANT PRODUCTS

TO: Mr. G. Robert Sido - GO

Attached is a copy of our comments which you requested on the following 36 compounds from the Krummrich Plant:

1. ACC
2. Cresyl Diphenyl Phosphate
3. Cyclohexylamine
4. Dichloramine T
5. AN-405
6. AN-406
7. Aromatic Naphthas
8. 2-Chloro-4-nitrophenol
9. Dihydroxydiphenylsulfone NT
10. Dodecylbenzene (DDB)
11. Dodecylbenzene Sulfonic Acid
12. Monoisopropylbiphenyl
13. Montar 3 and 4
14. Chloroacetic Acid
15. Nitrated Dodecylbenzene
16. Nitrated Orthene
17. Nitrochlorobenzene, ONCB, 221 Oil
18. CI-19
19. Santoflex GP
20. Santolene C
21. Santolene J
22. Santolene HLV
23. Santolube CC
24. Santolube 393
25. Santolube 392
26. Santopoid 22
27. Santopoid 22RI, 22RIA
28. Santopoid 29, 32, 44
29. Santopoid 35
30. Santopoid 37
31. Santolene CP
32. Trichlorobenzene
33. 1,2,4-Trichlorobenzene
34. Tricresyl Phosphate
35. Wax Benzene
36. M-437

In the case of many of these compounds, we would like to confer with you before any labeling statement is prepared.

Jack T. Garrett

JTG:dh
Attachment

MONS 097560

WHY FILE THIS

1. ACC (FATTY ACID CHLORIDE)

   This compound is a severe skin and eye irritant. The label should contain skin and eye warning.

2. CRESYL DIPHENYL PHOSPHATE (Gasoline Grade)

   Gas grade CDP may contain sufficient quantities of ortho isomer to warrant avoidance of ingestion, prolonged or repeated skin contact and inhalation of vapors from heated CDP. Label should contain the above under caution.

3. CYCLOHEXYLAMINE

   This compound is a strong organic base and causes skin and eye irritation. Recommend label for skin and eye irritation.

4. DICHLORAMINE T

   The dust of this material is irritating to the upper respiratory tract. This is a borderline case. The dust is quite irritating when inhaled. A caution about "avoid breathing dust" might be in order.

5. AN-405

   No label needed.

6. AN-406

   Should have TCP statement, depending on what grade TCP is used (in the case of gasoline grade, the statement should be added).

7. AROMATIC NAPHTHAs (Santolate L, H-1, H-4)

   Toxicity information indicates no hazard from ingestion or skin absorption. Only mild skin and eye irritation. No label required.

8. 2-CHLORO-4-NITRO PHENOL

   LD_{50}: 900 mg/kg (rats). Skin MLD (rabbits): 1500-2000 mg/kg. Mild to moderate skin and eye irritant. No label appears necessary.

9. DIHYDROXYDIPHENYLSULFONE NT

   Tests on technical and purified products show Oral LD_{50} in 4.7 to 10.0 g/kg range. No hazard from oral standpoint. No label required.

10. DODECYLBENZENE (DDB)

No label required for systemic effects. Can cause typical solvent action on skin and eyes. If solvents such as kerosene or aromatic naphthas have skin and eye statement, then DDB should have a statement also.

11. DODECYLBENZENE SULFONIC ACID (DDBSA)

This compound has no unusual systemic effects but it is corrosive and a definite skin and eye irritant. It is not an ICC labeled irritant, but is definitely irritating. In fact, it should contain at least a caution statement.

12. MONOISOPROPYLBIPHENYL

This compound has been extensively tested and results indicate no reason for a label since it shows no marked systemic toxicity or irritational potential to either the skin or eyes.

13. MONTAR 3 AND 4

These should carry the Aroclor label.

14. CHLOROACETIC ACID (MONOCHLOROACETIC ACID)

This material is considered a strong acid and as such injures skin and eye tissues the same as a strong mineral acid such as HCl. It should definitely be labeled for skin and eye and vapor irritancy. The vapors at room temperature are not too bad; at elevated temperatures they are quite irritating.

15. NITRATED DODECYLBENZENE (NITRODODECYLBENZENE)

The data on this compound indicates no oral or skin absorption hazard. The irritational studies indicate moderate skin irritation and mild eye irritation. Since this is an aromatic nitro compound, these data must be interpreted somewhat. A mild skin hazard warning might be in order.

16. NITRATED ORTHENE (NITRATED ORTHODICHLOROBENZENE)

The animal data on this compound indicates only slightly toxic response orally or by skin absorption. Irritation studies, however, show moderate skin and eye response. Because of this compound's close resemblance to nitrobenzene,

[illegible] 9/60 [illegible] comment [illegible] product [illegible]
Same precaution as [illegible] per LARI Pag. 30
WARNING! Hazardous Solid or Liq + Vapor
ABSORBED THROUGH Skin
avoid contact with skin eyes and clothing –
avoid breathing dust (or vapor).
[illegible] with adequate ventilation
[illegible] contact [illegible] eyes with plenty of water for at least 15 minutes; for eyes [illegible]
[illegible] and wash clothing [illegible]

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a label on "Do not take internally. Do not get on skin. Do not breath vapors" would be in order. Also, skin and eye irritation warnings should be on the label.

17. NITROCHLOROBENZENE (Crude), ORTHONITROCHLOROBENZENE and 221 OIL

These materials should carry a PNCB (Paranitrochlorobenzene) label. ONCB Class B Poisons 2/24/60 Product questioner - Medical assoc with Medical Danger

18. CI-19

If this compound is actually P_2S_5, it should carry a P_2S_5 label.

19. SANTOFLEX GP (N-Cyclohexyl N'-phenyl-p-phenylenediamine)

Toxicity studies indicate only slight toxicity orally or by skin absorption. Only slight irritation. No label is necessary.

20. SANTOLENE C

There appears to be no systemic hazard associated with this material. It is a mild to moderate eye irritant. No lable is necessary.

21. SANTOLENE J

Only slightly toxic by oral ingestion or skin absorption. However, it is a moderately severe skin and eye irritant. A label on skin and eye irritation should be supplied.

22. SANTOLENE HLV

Use the same label as that used for Santolene J, since this material is essentially aliphatic amine compounds. It contains the same components as Santolene J but in different percentages.

23. SANTOLUBE CC

Use the same label as that used for Triphenyl Phosphite

24. SANTOLUBE 393 (Zinc dihexyldithiophosphate)

Tests indicate only slightly toxic by oral ingestion or skin absorption. The material is a moderate skin and eye irritant. It should contain a statement on label about irritation of skin and eyes.

2/9/60 SANTOPOID 22RI no precaution statement needed! Whether

25. SANTOLUBE 392

Use the same label as that used for Santolube 393 since it contains 75% of Santolube 393.

26. SANTOPOID 22

This material has no marked systemic toxicity by oral ingestion or by skin absorption. It is, however, a mild to moderate skin irritant and should contain caution statement on irritation.

27. SANTOPOID 22RI, SANTOPOID 22RIA

Use the same label as that used for Santopoid 22 since they have essentially the same composition.

28. SANTOPOID 29, 32, 44

These are no longer made or sold according to Organic Sales Department.

29. SANTOPOID 35

No particular hazard.

30. SANTOPOID 37

Use the same label as that used for Santopoid 22 for labeling.

31. SANTOLENE CP (80% Santolene C, 20% kerosene)

Use the same label as that used for Santolene C.

32. TRICHLOROBENZENE

No marked systemic hazard and no more irritating than common solvents.

33. 1,2,4-TRICHLOROBENZENE

Same as #32 above.

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34. TRICRESYL PHOSPHATE

Use statement: "Do not ingest; do not allow prolonged or repeated contact with the skin, do not inhale vapors." Use caution with [redacted] gasoline grade.

9/28/60 Gasoline Grade TCP should have. CAUTION! Harmful if swallowed. Do not take internally. Avoid prolonged or repeated contact with skin. In case of contact wash with soap and water.
BRS

35. WAX BENZENE

This is a benzene alkylate used in the Santolube 203C process. The alkyl chain is chlorinated paraffin wax. The only customer for this product is Monsanto, Canada. They use it in the 203C process. This material has never been tested but Department 258 in the Krummrich Plant has handled it, both molten and solid, for years with no difficulty. It is shipped as a solid. It actually constitutes a substituted aliphatic chlorinated compound and would in some states have to be marked as a chlorinated hydrocarbon.

36. M-437 (Oleylamine-dihexyl phosphorodithioic acid salt)

This material has been tested and shows no marked systemic toxicity by ingestion or skin absorption. It is a moderate skin irritant and a mild to moderate eye irritant. Therefore, it should have a mild skin and eye irritation warning.

[illegible] Mono-chloroglthalic anhydride

[illegible] WARNING! HARMFUL TO EYES

Do not get in eyes.

In case of eye contact, flush with plenty of water for at least 15 minutes, get medical attention.

37 [illegible]

[illegible]

4/6/61 Santosite - Sodium sulfite - no hazard from storage, handling or use. [illegible] J. Barnett