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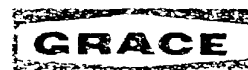
CONSOLIDATED MONTHLY SUMMARY

JANUARY 1972

This Consolidated Monthly Summary contains the technical information for January 1972. Because of the highly confidential nature of its contents, circulation is limited. Those receiving copies are requested to limit access to only those members within their organization who have a real need-to-know.

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W. R. GRACE & CO.
RESEARCH DIVISION



Washington Research Center, Clarksville, Maryland 21029

February 4, 1972

MONTHLY REPORT FOR JANUARY 1972

CONSOLIDATED EDITION

GRACE CONFIDENTIAL

NOT TO GO OUTSIDE U.S.

This report contains information on the following activities
at the Washington Research Center.

INORGANIC RESEARCH

- I-1 Clear POLISHING POWDER
- I-2 SEA WATER SCALE INHIBITOR
- I-3 FUSION BONDED VERMICULITE BOARD
- I-4 CERAMIC BONDED VERMICULITE BOARD
- I-5 LEAF AUTOMATION
- I-6 POLYFIBRON ELECTROCHEMICAL SUPPORT
- I-7 GRACE INORGANIC EXCHANGERS
- I-8 AUTO EMISSIONS CATALYST
- I-9 NUCLEAR MATERIALS
- I-10 COMMERCIALIZATION OF NUCLEAR TECHNOLOGY

ORGANIC RESEARCH

- O-1 WET STRENGTH AGENTS
- O-2 HYDROPHILIC POLYURETHANES
- O-3 HAMPSHIRE PROJECTS
- O-4 PROJECTS OF INTEREST TO D&A
- O-5 PROJECTS OF INTEREST TO COV
- O-6 EXPLORATORY PROJECT

PHOTOPOLYMER RESEARCH

- P-1 LITHOGRAPHIC PRINTING PLATES
- P-2 LETTERFLEX IMPROVED PRINTING QUALITY
- P-3 SOLID LETTERFLEX PLATE
- P-4 DRY FILM PHOTORESIST
- P-5 SOLDER PHOTORESIST
- P-6 LETTERFLEX RAW MATERIALS

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AGRICULTURAL & CONSTRUCTION
MATERIALS RESEARCH

- A-1 WELLMAN-POWER GAS SO₂ RECOVERY PROCESS
- A-2 ESSEX CHEMICAL CORPORATION MEETING
- A-3 REFORMULATION AND EVALUATION OF MONO-KOTE
- A-4 SILICATE CONSTRUCTION MATERIALS
- A-5 SOYBEAN AGRONOMY REVIEW MEETING

BIOCHEMICAL RESEARCH

- B-1 ADAPTED RUMEN MICROBES
- B-2 AMMONIUM ISOBUTYRATE AS A GRAIN AND SILAGE PRESERVATIVE
- B-3 SCOURS PREVENTATIVE
- B-4 ANTIBIOTIC AGAINST GRAM NEGATIVE BACTERIA
- B-5 ENZYMATIC TREATMENT FOR FEEDLOT BLOAT
- B-6 METHANE INHIBITION IN RUMINANTS
- B-7 NATIONAL INSTITUTE OF HEALTH SCREENING PROGRAM

OTHER ACTIVITIES

OT-1 GRACE CANE SUGAR PROCESS

APPENDIX A

WRC PATENT ACTIVITY REPORT

CONSOLIDATED EDITION

AGRICULTURAL & CONSTRUCTION
MATERIALS RESEARCH

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February 4, 1972

production, would be the improvement of pond water quality to remove both fluorine and P_2O_5 and raising pH from 1 to about 4 or 5.

It is expected that Essec future action will have been decided by the middle of February, at which time they will contact Mr. Blackwood's office.

(Legal, Kolbe)

A-3 REFORMULATION AND EVALUATION OF MONO-KOTE (Project 2659)

The objective of this project is to assist the Construction Products Division (CPD) in developing an asbestos-free Mono-Kote having 100% total equivalency to MK-3. It is intended that the new Mono-Kote would meet UL fire-rating tests on steel-blend decks, beams, and columns. Additionally, WRC is attempting to develop a super Mono-Kote with top UL fire ratings and possessing superior thermal, acoustical, and application properties. The Mono-Kote business is expanding with estimated annual sales of about \$6 MM. CPD is marketing two types of Mono-Kote--MK-3 and MK-4. MK-3 is a problem because it contains asbestos which is considered a health hazard. MK-4, developed as a substitute for MK-3, is an inferior product and gives poor fire-rating tests on flat decks. In general, bonding strength has been poor for MK-4.

The December report outlined a program of determining gypsum quality variation and its effect on Mono-Kote bonding problems. In the meantime, CPD has encountered shrink-crack problems in the field and has requested assistance from WRC in determining the factors causing this problem. It is not certain whether curing (drying) conditions or Mono-Kote compositions, or both, are the more important factors influencing shrink-crack. An experimental program to determine the causes of the problem has been reviewed with CPD and is currently being implemented at WRC.

In the meantime, two formulas for UL testing have been approved at Traveler's Rest, South Carolina. The formulas are (1) TR-66 using fiberglass as a reinforcing agent in MK-4, and (2) TR-16 using 0.5% fiberglass plus 2% chopped polystyrene foam with gypsum and vermiculite.

Test panels for the two were prepared in January 1972 at UL Laboratories, Chicago, Illinois, and will be fired February 4.

(Kraus, Legal)

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