

W. R. GRACE & CO.
RESEARCH DIVISION



Washington Research Center, Clarksville, Maryland 21029

GRACE CONFIDENTIAL

CONSOLIDATED MONTHLY SUMMARY

NOVEMBER 1970

This Consolidated Monthly Summary contains the technical information for November 1970. Because of the highly confidential nature of its contents, circulation is restricted to one copy per operating unit in the Chemical Group and to a few selected individuals. Those receiving copies are requested to limit access to only those members within their organization who have a real need to know.

15208173

Cable - Gracerad

Tel. (301) 531 - 5711

TWX - 710 862 1886

1

DISTRIBUTION OF CONSOLIDATED MONTHLY SUMMARY

Operating Units

ACC - c/o G. W. Blackwood	G. E. Ashby
DAV - c/o C. E. Brookes	J. H. Baird
D&A - c/o R. A. Clabault	H. C. Duecker
P&CD - c/o C. W. Lorentzen	R. H. Gray, Jr.
CPD - c/o R. M. Vining	V. S. Frank
HAMP - c/o J. J. Singer, Jr.	T. G. Gibian
COV - c/o M. C. Morrill	C. L. Kehr
HAT - c/o A. Kaufman	D. E. Kramm
ICG - c/o P. M. Rinaldo	O. D. Myrick, Jr.
SPG - c/o D. Clark	W. K. O'Loughlin

New York

Engineering Division - c/o R. H. Lafferty	K. E. Prince
Patent Department - c/o T. A. Wilson	R. G. Rice
Mathematical Sciences - c/o A. M. Schneider	M. G. Sanchez
Commercial Dept. - c/o W. Copulsky	F. J. Sergeys
	G. Teplitzky
	P. L. Veltman
	Central Files

Overseas

Dr. Otto Ambros - (Edited to comply with U.S. restrictions on
export of technical information)

15208174

W. R. GRACE & CO.
RESEARCH DIVISION



Washington Research Center, Clarksville, Maryland 21029

December 28, 1970

MONTHLY REPORT FOR NOVEMBER 1970

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 AUTO EMISSIONS CATALYST
- I-2 MONOLITHIC CATALYST SUPPORTS
- I-3 NEW MOLECULAR SIEVE COMPOSITIONS
- I-4 ZEOLITE STABILITY AND ACTIVITY
- I-5 CERIUM HYDRATE FOR SILOXANE STABILIZATION
- I-6 CLAY COMPOUNDS
- I-7 RECOVERY OF MERCURY
- I-8 LEAF BALL AUTOMATION
- I-9 CERAMIC DEVELOPMENT EQUIPMENT FACILITY
- I-10 CUTTING TOOLS
- I-11 KEMALOX POWDERS
- I-12 ELECTRONIC SUBSTRATES
- I-13 ADVANCED NAVAL FUELS
- I-14 ADVANCED SPACE FUELS

ORGANIC RESEARCH

- O-1 CAN COMPOUNDS - CAN END ADHESIVES
- O-2 CAN COMPOUNDS - OVERSTRIPE FOR CONOWELD SIDE SEAM
- O-3 FIRE RETARDANT MATERIALS

15208175

Cable - Gracerad

Tel. (301) 531 - 5711

TX - 710 862 1886

ORGANIC RESEARCH (Cont'd)

- O-4 ADHESION STUDIES - CRYOVAC COOPERATIVE STUDY
- O-5 PACKAGING MATERIALS - NON-HALOGENATED BARRIER MATERIALS
- O-6 POLYSTYRENE FOAM STUDIES
- O-7 DIVISIONAL CONSULTATION
- O-8 PHOTOCHEMISTRY STUDIES - PHOTOENHANCED ADHESION
- O-9 WATER TREATMENT CHEMICALS
- O-10 HAMPSHIRE PROJECTS
- O-11 FIRE RETARDANT FOAMS
- O-12 ADDITIVES TO POLYOLEFINS
- O-13 PHOTOCHEMISTRY STUDIES - PHOTSENSITIVE LOGO FOR PACKAGING FILMS
- O-14 PHOTOCHEMISTRY STUDIES - PHOTOACTIVATION OF CONVENTIONAL POLYMER CURING AGENTS

CLP TASK FORCE RESEARCH

- C-1 LETTERFLEX B QUALITY CONTROL
- C-2 ULTRAVIOLET CURABLE INKS
- C-3 INK FEASIBILITY STUDIES
- C-4 PHOTORESISTS
- C-5 LITHOGRAPHIC PRINTING PLATE
- C-6 PRESSURE SENSITIVE ADHESIVES
- C-7 MARKET STUDIES
- C-8 DARK STABILITY
- C-9 MATERIALS TECHNOLOGY
- C-10 INSTRUMENTATION
- C-11 LOW COST POLYTHIOLS FOR CLP TECHNOLOGY
- C-12 CLP CASTS

AGRICULTURAL RESEARCH

- A-1 REFORMULATION AND EVALUATION OF MONO-KOTE
- A-2 WASTE WATER CLEAN-UP AND BY-PRODUCT RECOVERY

BIOCHEMICAL RESEARCH

- B-1 ADAPTED RUMEN MICROBES (ARM)
- B-2 SALTS OF ISOBUTYRIC ACID AS POULTRY FEED ADDITIVE
- B-3 "CHRON-X"
- B-4 L-DOPA (EXPLORATORY)

GOVERNMENT CONTRACT OPERATIONS

- G-1 OIL RECOVERY SYSTEM USING SORBENT MATERIALS - FWQA WASHINGTON, D.C.
- G-2 INDUSTRIAL WASTE STUDIES - FWQA WASHINGTON, D.C.

OTHER R&D

- OT-1 GRACE SUGAR PROCESS

15208176

These items are included in the various editions of the report as shown below:

ACG Edition	I-6; A-2; B-1,2,3; G-2
DAV Edition	I-1,3,4,5,6,7,9,10,11,12; O-3; G-2
HAMP Edition	O-3,10,12; B-4; G-2
CPG Edition	O-3,4,5,6,8,11,12,13,14; G-2
HATCO Edition	O-3,7,11,14; B-2; G-2
European Edition	I-1,3,4,6,7,9,10; O-3,7,9,12,13,14; OT-1
SPG Edition	I-6,7; G-2
PFD Edition	I-2; O-3,7; C-1,2,3,4,5,6,7,8,9,10,11; G-2
CPD Edition	O-3,11,14; A-1; G-1,2
P&CD Edition	O-3,5,7,14; C-2,3,4,5,6,7,8,9,10; G-2
D&A Edition	O-1,2,14; C-2,3,4,5,6,7,8,9,10,12; B-4; G-2
Consolidated Foreign Edition	I-1,2,3,4,5,6,7,9,10; O-1,2,3,4,5,6,7,8,9,10, 11,12,13,14; C-1,2,3,4,5,6,7,8,9,10,11,12; A-1,2; B-1,2,3,4; G-1,2; OT-1
Consolidated Edition	All Items

(3) Economics.

Status

(1) The Patent Department (Mr. Richard Plunkett) has evaluated the patent situation on CLP casts. Conclusions are as follows: the Solar Laboratories, who market the "Lightcast" material, have a broad patent (U.S. 3,421,501) assigned to Mr. Leroy Beightol, one of their officers. This patent claims light or UV cured polymer-impregnated flexible fabrics for orthopedic use, thus covering the concept originated by Cerisa/Larsen at Grace. It appears probable that the Grace patent application will be rejected, and we will not be able to practice this invention without infringing.

Non-fabric type cast materials, such as our curable adhesive tape, woven tubes, etc., may not be subject to the infringement limitations. We are not sure whether we will be able to obtain patent coverage of these concepts, but attempts to commercialize should probably be based on these materials, unless licensing possibilities could be considered.

(2) Mr. Rulon-Miller has not completed his market evaluation of product shelf-life requirements, but feels that it may be greater than six months.

(3) In a meeting with B. Lundsager, C. Orgell and L. Burkholder, a product and process selection was made to permit the development of economics. This tentative concept consists of producing a perforated (50% openings) CLP sheet on a special cylinder. The polymer would probably be applied at elevated temperature, and solidify to a rubbery material at room temperature (it is a SLP, solid curable polymer). These sheets are then coated with the UV curable contact adhesive, cut into bandages of the desired width, and packaged. A release coating treated plastic film will be used for producing rolls of materials, which will be sealed under an inert atmosphere in air tight foil packing. The Development Department is in the process of issuing the results of their economics study.

Conclusions

The patent situation is not unfavorable for the adhesive tape concept, but restrictive for impregnated fabrics. Other decision factors are expected soon.

(Braude)

AGRICULTURAL RESEARCHA-1 REFORMULATION AND EVALUATION OF MONO-KOTE (Project 2659)

Laboratory data developed at WRC on effects that certain additives have on bond strength of the standard Mono-Kote formulation (ex asbestos) were presented to CPD in a meeting of November 9th. Ten additives were selected for further study. Formulations containing these additives are scheduled for high temperature (>300°C) deformation and flexural tests in December.

(Kraus)

15208178