

UNITED STATES ATOMIC ENERGY COMMISSION  
APPLICATION FOR SOURCE MATERIAL LICENSE

A-76

Pursuant to the regulations in Title 10, Code of Federal Regulations, Chapter 1, Part 40, application is hereby made for a license to receive, possess, use, transfer, deliver or import into the United States, source material for the activity or activities described.

|   |                        |   |  |
|---|------------------------|---|--|
| 1. (Check one)<br><input type="checkbox"/> (a) New license<br><input type="checkbox"/> (b) Amendment to License No. <u>STA-422</u><br><input checked="" type="checkbox"/> (c) Renewal of License No. _____<br><input type="checkbox"/> (d) Previous License No. _____   |                        | 2. NAME OF APPLICANT <u>W. H. GRACE &amp; Co.</u><br><u>Davison Chemical Division</u> |  |
| 4. STATE THE ADDRESS(ES) AT WHICH SOURCE MATERIAL WILL BE POSSESSED OR USED<br><u>868 Black Oak Ridge Road, Wayne, N. J.</u>  |                        | 3. PRINCIPAL BUSINESS ADDRESS<br><u>Pompton Plains, N. J.</u>                         |  |
| 5. BUSINESS OR OCCUPATION<br><u>Chemical Manufacturer</u>   |                        | 6. (a) IF APPLICANT IS AN INDIVIDUAL, STATE CITIZENSHIP                               | (b) AGE  |
| 7. DESCRIBE PURPOSE FOR WHICH SOURCE MATERIAL WILL BE USED<br><u>Thorium Ore processing</u>   |                        |   |  |
| Docket No. <u>40-86</u><br>Task No. <u>T01</u><br>Docketed <u>SEP 21 1967</u> <i>RR</i>   |                        |   |  |
| 8. STATE THE TYPE OR TYPES, CHEMICAL FORM OR FORMS, AND QUANTITIES OF SOURCE MATERIAL YOU PROPOSE TO RECEIVE, POSSESS, USE, OR TRANSFER UNDER THE LICENSE   |                        |   |  |
| (a) TYPE  | (b) CHEMICAL FORM      | (c) PHYSICAL FORM (Including % U or Th.)  | (d) MAXIMUM AMOUNT AT ANY ONE TIME (in pounds) |
| NATURAL URANIUM   |                        |   |  |
| URANIUM DEPLETED IN THE U-235 ISOTOPE   |                        |   |  |
| THORIUM (ISOTOPE)   | <u>Insoluble salts</u> | <u>Monazite, Thorite, etc. up to 20% ThO2</u>   | <u>Unlimited requested</u>                     |
| (e) MAXIMUM TOTAL QUANTITY OF SOURCE MATERIAL YOU WILL HAVE ON HAND AT ANY TIME (in pounds)<br><u>Requesting "Unlimited" per previous license dated 11/22/61</u>  |                        |   |  |
| 9. DESCRIBE THE CHEMICAL, PHYSICAL, METALLURGICAL, OR NUCLEAR PROCESS OR PROCESSES IN WHICH THE SOURCE MATERIAL WILL BE USED, INDICATING THE MAXIMUM AMOUNT OF SOURCE MATERIAL INVOLVED IN EACH PROCESS AT ANY ONE TIME, AND PROVIDING A THOROUGH EVALUATION OF THE POTENTIAL RADIATION HAZARDS ASSOCIATED WITH EACH STEP OF THOSE PROCESSES.<br><u>See our application dated 2/11/60, and the amendments thereto dated 4/11, 6/20 and 7/29/1960, 7/3, 7/4, and 5/2/61, except to the extent that the application refers to superseded provisions of the Commissions Regulation 10CFR20. See also our letter to AEC dated 7/3/61, re: incineration of source material</u> |                        |   |  |
| 10. DESCRIBE THE MINIMUM TECHNICAL QUALIFICATIONS INCLUDING TRAINING AND EXPERIENCE THAT WILL BE REQUIRED OF APPLICANT'S SUPERVISORY PERSONNEL INCLUDING PERSON RESPONSIBLE FOR RADIATION SAFETY PROGRAM (OR OF APPLICANT IF APPLICANT IS AN INDIVIDUAL).<br><u>See our letter to division of Licensing and Regulations dated 4/11 and 7/13/60, plus attachments.</u><br><u>See previous AEC License STA-422 dated 11/22/61 and AEC letter dated 11/22/61, Docket No. 40-86</u>   |                        |   |  |
| 11. DESCRIBE THE EQUIPMENT AND FACILITIES WHICH WILL BE USED TO PROTECT HEALTH AND MINIMIZE DANGER TO LIFE OR PROPERTY AND RELATE THE USE OF THE EQUIPMENT AND FACILITIES TO THE OPERATIONS LISTED IN ITEM 9. INCLUDE: (a) RADIATION DETECTION AND RELATED INSTRUMENTS (including film badges, dosimeters, counters, air sampling, and other survey equipment as appropriate. The description of radiation detection instruments should include the instrument characteristics such as type of radiation detected, window thickness, and the range(s) of each instrument).<br><br><u>See 9 and 10 above</u>   |                        |   |  |
| (b) METHOD, FREQUENCY, AND STANDARDS USED IN CALIBRATING INSTRUMENTS LISTED IN (a) ABOVE, INCLUDING AIR SAMPLING EQUIPMENT (for film badges, specify method of calibrating and processing, or name supplier).<br><br><u>See 9 and 10 above</u>  |                        |   |  |

For Div. of Compliance *Reg I*

11(c) VENTILATION EQUIPMENT WHICH WILL BE USED IN OPERATIONS WHICH PRODUCE DUST, FUMES, MISTS, OR GASES, INCLUDING PLAN VIEW SHOWING TYPE AND LOCATION OF HOOD AND FILTERS, MINIMUM VELOCITIES MAINTAINED AT HOOD OPENINGS AND PROCEDURES FOR TESTING SUCH EQUIPMENT.

See 9 and 10 above

12 DESCRIBE PROPOSED PROCEDURES TO PROTECT HEALTH AND MINIMIZE DANGER TO LIFE AND PROPERTY AND RELATE THESE PROCEDURES TO THE OPERATIONS LISTED IN ITEM 9. INCLUDE (a) SAFETY FEATURES AND PROCEDURES TO AVOID NONNUCLEAR ACCIDENTS, SUCH AS FIRE, EXPLOSION, ETC., IN SOURCE MATERIAL STORAGE AND PROCESSING AREAS.

See 9 and 10 above

(b) EMERGENCY PROCEDURES IN THE EVENT OF ACCIDENTS WHICH MIGHT INVOLVE SOURCE MATERIAL.

See 9 and 10 above

(c) DETAILED DESCRIPTION OF RADIATION SURVEY PROGRAM AND PROCEDURES.

See 9 and 10 above

13. WASTE PRODUCTS: *If none will be generated, state "None" opposite (a), below. If waste products will be generated, check here  and explain on a supplemental sheet:*

- (a) Quantity and type of radioactive waste that will be generated.
- (b) Detailed procedures for waste disposal.

See 9 and 10 above

14. IF PRODUCTS FOR DISTRIBUTION TO THE GENERAL PUBLIC UNDER AN EXEMPTION CONTAINED IN 10 CFR 40 ARE TO BE MANUFACTURED, USE A SUPPLEMENTAL SHEET TO FURNISH A DETAILED DESCRIPTION OF THE PRODUCT, INCLUDING:

- (a) PERCENT SOURCE MATERIAL IN THE PRODUCT AND ITS LOCATION IN THE PRODUCT.
- (b) PHYSICAL DESCRIPTION OF THE PRODUCT INCLUDING CHARACTERISTICS, IF ANY, THAT WILL PREVENT INHALATION OR INGESTION OF SOURCE MATERIAL THAT MIGHT BE SEPARATED FROM THE PRODUCT.
- (c) BETA AND BETA PLUS GAMMA RADIATION LEVELS (*Specify instrument used, date of calibration and calibration technique used*) AT THE SURFACE OF THE PRODUCT AND AT 12 INCHES.
- (d) METHOD OF ASSURING THAT SOURCE MATERIAL CANNOT BE DISASSOCIATED FROM THE MANUFACTURED PRODUCT.

**CERTIFICATE**

*(This item must be completed by applicant)*

15. *The applicant, and any official executing this certificate on behalf of the applicant named in Item 2, certify that this application is prepared in conformity with Title 10, Code of Federal Regulations, Part 40, and that all information contained herein, including any supplements attached hereto, is true and correct to the best of our knowledge and belief.*

**W. R. Grace & Co.  
Davison Chemical Division**

*(Applicant named in Item 2)*

Dated 9/19/67

BY: Hugh J. Sweitzer  
*(Print or type name under signature)*

**Plant Manager**

*(Title of certifying official authorized to act on behalf of the applicant)*

WARNING: 18 U.S.C. Section 1001; Act of June 25, 1918; 62 Stat. 749; makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.