



E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED

308 EAST LANCASTER AVE.
WYNNWOOD, PA. 19096

CHEMICALS AND PIGMENTS DEPARTMENT

June 26, 1981

TO: DISTRIBUTORS OF TI-PURE® TITANIUM DIOXIDE

RE: TI-PURE® TITANIUM DIOXIDE DATA SHEETS

The attached revised Ti-Pure® Data Sheets are now in stock.

<u>New Stock No.</u>	<u>Title</u>	<u>Old Stock No.</u>
E-42022	Ti-Pure® R-931	E-27040
E-42006	Ti-Pure® R-933	E-27041

Please discard your obsolete stock of the above data sheets.

Minor changes were made to the Typical Analysis and Physical Properties section.

Additional copies of these data sheets are available through Du Pont's Marketing Communications Department, Nemours 2468, Wilmington, Delaware 19898.

In order to serve you more efficiently, we are enclosing a business reply card to update our mailing list. If you are no longer the person in your organization or if there are others who should be receiving this information, please fill out and return the change of address reply card.

DISTRICT MANAGER

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Attachments

TI-PURE* R-931 RUTILE TITANIUM DIOXIDE

A fine, dry, white powder with the following general properties:

TYPICAL ANALYSIS^a

Titanium Dioxide (TiO ₂)	80% min.
Aluminum Oxide (Al ₂ O ₃)	8% max.
Silicon Dioxide (SiO ₂)	8% max.
Meets ASTM D476 Type III Specifications	

TYPICAL PHYSICAL PROPERTIES^a

Specific gravity	3.6
Bulking value	0.033 gal/lb (0.275 L/kg)
Oil absorption (ave.)	32 lb/100 lb (320 g/kg)
pH	8.0-9.5
% Volatiles @ 221°F (105°C)	0.5% max.
(Determined at time of packaging)	

^aThe above tables give typical properties based on historical production performance. Du Pont does not make any express or implied warranty that this product will continue to have these typical properties.

USES

Ti-Pure® R-931 provides an excellent balance of high hiding power efficiency and good film integrity in aqueous and nonaqueous flat paints. Its intermediate chalk resistance contributes good cleanability to white outside house paints.

In paper coatings, Ti-Pure® R-931 provides outstanding dry flat hiding.

*Reg. U.S. Pat. & T.M. Off., Du Pont Co.

In aqueous flexographic inks, Ti-Pure® R-931 is the recommended product for brightness and opacity.

Also available as an aqueous slurry—Ti-Pure® R-941.

PERSONAL SAFETY

Health Hazards

In Du Pont tests, dusts of titanium dioxide, including titanium dioxide treated with amorphous silica, produced a response in the lungs of rats comparable to the effects given by inert or nuisance dusts.

Titanium dioxide is regulated as an air contaminant by the U. S. Department of Labor (OSHA) under Title 29 CFR 1910.1000. OSHA has ruled that an employee's exposure to titanium dioxide in any eight-hour work shift of a forty-hour week shall not exceed a Time-Weighted Average of 15 mg/m³ in air.^b

The American Conference of Governmental Industrial Hygienists (ACGIH) classifies titanium dioxide as a nuisance dust and recommends a Threshold Limit Value, TLV®, of 10 mg/m³ total dust or 5 mg/m³ respirable dust.

OSHA does not define a specific limit for a titanium dioxide modified with amorphous silica. If Ti-Pure® R-931 is considered as a nuisance dust, the OSHA limit is 15 mg/m³ total dust, 5 mg/m³ respirable dust. Du Pont has elected to observe the ACGIH limit in handling Ti-Pure® R-931.

The information set forth herein is furnished free of charge and is based on technical data that Du Pont believes to be reliable. It is intended for use by persons having technical skill and at their own discretion and risk. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information. Nothing herein is to be taken as a license to operate under or a recommendation to infringe any patents.

Safety Precautions

For dust concentrations above the minimum, workers should wear dust respirators, such as Mine Safety Appliance No. 66 CM-73053 type filter.

PACKAGES

Ti-Pure® R-931 Rutile Titanium Dioxide is available in 50-lb (22.7-kg) paper bags and 75-ton (68-metric ton) dry bulk pressure differential rail cars.

This product is not regulated as a hazardous material by the Department of Transportation.^b

^bDue to changing recommendations and governmental regulations, such as those of the Department of Labor, U.S. Environmental Protection Agency, and the Food and Drug Administration, references herein to governmental requirements may be superseded. You should consult and follow the current governmental regulations, such as Hazard Classification, Labeling, Food Use Clearances, Worker Exposure Limitations, and Waste Disposal Procedures for the up-to-date requirements.

E. I. du Pont de Nemours & Co. (Inc.) Wilmington, Delaware 19898

U.S. Sales Offices

CHARLOTTE NC 28230
6250 Fairview Rd., P.O. Box 30517
704-364-1550

CHICAGO IL 60631
O'Hare Plaza, Suite 760
5725 E. River Rd.
312-635-1220

CLEVELAND OH (Suburban)
6100 Rockside Woods Boulevard
Suite 255
Independence, OH 44131
216-447-0868

HOUSTON TX 77056
Suite 1620, Post Oak Tower
713-877-5500

NEW YORK NY 10118
Rm 1129, Empire State Bldg.
350 Fifth Ave.
212-971-4000

PHILADELPHIA PA (Suburban)
308 E. Lancaster Ave.
Wynnewood, PA 19096
215-896-2000

SAN FRANCISCO CA 94111
Suite 3110
50 California Street
415-391-7300

International Sales Offices

IN CANADA
Du Pont Canada Inc.
Box 660
Montreal S, P.Q. H3C 2V1
514-861-3861

Du Pont Canada Inc.
P.O. Box 2300
Streetsville Postal Station
Mississauga, Ontario L5M 2J4
416-821-5594

IN EUROPE
Du Pont de Nemours International S.A.
P.O. Box
CH-1211
Geneva 24, Switzerland
022-278111

IN THE FAR EAST
Du Pont Far East Inc.
Kowa Building No. 2
11-39 Akasaka 1-chome
Minato-ku
Tokyo 107, Japan
585-5511

