

**REGULATION 12  
MISCELLANEOUS STANDARDS OF PERFORMANCE  
RULE 5  
PHOSPHATE FERTILIZER PLANTS**

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**REGULATION 12**  
**MISCELLANEOUS STANDARDS OF PERFORMANCE**  
**RULE 5**  
**PHOSPHATE FERTILIZER PLANTS**

**12-5-100 GENERAL**

**12-5-101 Description:** The purpose of this Rule is to limit the emissions of fluorides from the following plants and facilities: granular triple superphosphate storage facilities; wet-process phosphoric acid plants; superphosphoric acid plants, including any combination of reactors, granulators, dryers, coolers, screens and mills; and triple superphosphate plants.

**12-5-200 DEFINITIONS**

**12-5-201 Equivalent P<sub>2</sub>O<sub>5</sub> Feed:** The quantity of phosphorous, expressed as phosphorous pentoxide as determined by the method specified in 60.204 (d) (2) 40 CFR part 60, fed to the process.

**12-5-202 Fresh Granular Triple Superphosphate:** Granular triple superphosphate produced no more than 10 days prior to the date of a performance test.

**12-5-203 Granular Diammonium Phosphate Plant:** Any plant manufacturing granular diammonium phosphate by reacting phosphoric acid with ammonia.

**12-5-204 Granular Triple Superphosphate Storage Facilities:** Any plant curing or storing granular triple superphosphate, including any combination of storage or curing piles, conveyors, elevators, screens and mills.

**12-5-205 Run-of-pile Triple Superphosphate:** Any triple superphosphate that has not been processed in a granulator and is composed of particles at least 25% by weight which (when not caked) will pass through a 16 mesh screen.

**12-5-206 Superphosphoric Acid Plant:** Any plant which concentrates wet process phosphoric acid to 66% or greater P<sub>2</sub>O<sub>5</sub> content by weight for eventual consumption as a fertilizer, including any combination of evaporators, hotwells, acid sumps, and cooling tanks.

**12-5-207 Total Fluorides:** Elemental fluorine and all fluoride compounds.

**12-5-208 Triple Superphosphate Plant:** Any plant manufacturing triple superphosphate by reacting phosphate rock with phosphoric acid, including any combination of mixers, curing belts (dens), reactors, granulators, dryers, cookers, screens and mills, and storage facilities for run-f-pile triple superphosphate.

**12-5-209 Wet Process Phosphoric Acid Plant:** Any plant manufacturing phosphoric acid by reacting phosphate rock with acid, including any combination of reactors, filters, evaporators and hotwells.

**12-5-300 STANDARDS**

**12-5-301 Fluoride Emissions:** A person shall not emit gases which contain total fluorides in the following amounts from the following plants and facilities.

301.1 In excess of 0.25 g/hr/metric ton ( $5.0 \times 10^{-4}$  lb/hr/T) of equivalent P<sub>2</sub>O<sub>5</sub> stored from granular triple superphosphate storage facilities.

301.2 In excess of 10.0 g/metric ton (0.02 lb/T) of equivalent P<sub>2</sub>O<sub>5</sub> feed from wet-process phosphoric acid plants.

301.3 In excess of 5.0 g/metric tone (0.1 lb) of equivalent P<sub>2</sub>O<sub>5</sub> feed, from superphosphoric acid plants.

301.4 In excess of 30.0 g/metric ton (0.06 lb/T) of equivalent P<sub>2</sub>O<sub>5</sub> feed, from diammonium phosphate plants.

301.5 In excess of 100 g/metric ton (0.20 lb/T) of equivalent P<sub>2</sub>O<sub>5</sub> feed, from triple superphosphate plants.

## 12-5-500 MONITORING AND RECORDS

**12-5-501 Processing Plants:** Persons who operate processing plants subject to this Rule shall do the following:

- 501.1 Install, calibrate, maintain, and operate a flow monitoring device which can be used to determine the mass flow of phosphorous-bearing feed material to the process. The monitoring device shall have an accuracy of  $\pm 5\%$  over its operating range.
- 501.2 Maintain a daily record of equivalent  $P_2O_5$  feed by multiplying the total mass flow rate in metric ton/hr. of phosphorous-bearing feed times the percentage of  $P_2O_5$  content.
- 501.3 Install, calibrate, maintain, and operate a monitoring device which continuously measures and permanently records the total pressure drop across the process scrubbing system. The monitoring device shall have an accuracy of  $\pm 5\%$  over its operating range.

**12-5-502 Storage Facilities:** Persons operating granular triple superphosphate storage facilities shall do the following:

- 502.1 Maintain an accurate account of triple superphosphate in storage to permit the determination of the amount of equivalent  $P_2O_5$  stored.
- 502.2 Maintain a daily record of total equivalent  $P_2O_5$  stored by multiplying the percentage  $P_2O_5$  content times the total mass of granular triple superphosphate stored.
- 502.3 Install, calibrate, maintain, and operate a monitoring device which continuously measures and permanently records the total pressure drop across the process scrubbing system. The monitoring device shall have an accuracy of  $\pm 5$  percent over its operating range.

## 12-5-600 MANUAL OF PROCEDURES

**12-5-601 Testing Procedures:** The testing procedures for this Rule are not included in the Manual of Procedures. Emissions subject to the requirements of Section 12-5-301.1 shall be tested according to the method specified in 40 CFR 60.244, or equivalent. Emissions subject to the requirements of Section 12-5-301.5 shall be tested according to the method specified in 40 CFR 60.204, or equivalent.