

# INTERNATIONAL STANDARD



# 3963

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## Fertilizers — Sampling from a conveyor by stopping the belt

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## FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been set up has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 3963 was developed by Technical Committee ISO/TC 134, *Fertilizers and soil conditioners*, and was circulated to the member bodies in September 1975.

It has been approved by the member bodies of the following countries :

Austria	India	Portugal
Brazil	Iran	Romania
Czechoslovakia	Israel	South Africa, Rep. of
Egypt, Arab Rep. of	Italy	Spain
Finland	Netherlands	Thailand
France	New Zealand	Turkey
Germany	Norway	United Kingdom
Hungary	Poland	Yugoslavia

The member body of the following country expressed disapproval of the document on technical grounds :

U.S.S.R.

# Fertilizers — Sampling from a conveyor by stopping the belt

## 0 INTRODUCTION

Taking a representative sample from a consignment of fertilizer by sampling from a conveyor by stopping the belt is time consuming and interrupts the loading or unloading process considerably. The method should be used only where other methods, such as automatic sampling or scoop sampling from a free fall, are impossible, or as a reference method to assess the accuracy of other techniques.

The procedure given applies to each increment to be taken to form the final sample. The size of each increment, the number of increments or the frequency of sampling is found by reference to ISO . . .

## SAFETY

The sampling method involves contact with machinery which is normally in motion. Safety precautions must be such that there is no possibility of the conveyor starting up while the increments are being taken. An override start/stop button should be provided at the point of sampling.

The sampler should be able to reach the whole cross-section of the belt without undue physical strain. The position of sampling should be made as convenient as possible, for example by using a suitable platform.

## 1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies a reference method for sampling all solid fertilizers transported on a conveyor belt from the place of manufacture or storage to some other location.

## 2 REFERENCES

ISO . . ., *Fertilizers — Sampling*.<sup>1)</sup>

ISO . . ., *Fertilizers — Sampling report*.<sup>1)</sup>

## 3 PRINCIPLE

Stopping of the belt conveying the fertilizer. Insertion of two parallel boards or metal sheets vertically down into and at right angles to the stream of fertilizer and to the axis of the conveyor belt. Removal of the material between the boards or sheets.

## 4 APPARATUS

**Two parallel boards or metal sheets** shaped to the characteristics of the trough of the belt, sufficiently long to project beyond the sides of the belt by 500 mm and sufficiently wide for the upper edge to be at least 50 mm above the top of the fertilizer on the belt.

It is recommended that a metal frame be made to carry the boards or metal sheets. This frame can then be placed across the belt in a single operation.

Failing this, two marks should be made on the supporting structure on each side of the belt so that the boards or metal sheets can be inserted in the same places each time.

## 5 PROCEDURE

Care must be exercised when samples are being taken from inclined belts. The boards shall, in these cases, be inserted rapidly and at right angles to the stream to avoid backflow.

Select a suitable position on the conveyor belt where the fertilizer is well spread out and the stream stabilized, at least 1 m from the feed to the conveyor; stop the belt. Do not take a sample if there is a small feed at that time or if the flow has only just started or is just finishing.

Once the belt has stopped, insert the two boards or metal sheets vertically down into the stream of fertilizer and at a sufficient distance apart to give an increment larger than the minimum mass required according to ISO . . . Push the boards gently down until they are in contact with the belt across the whole section.

1) In preparation.

Any fertilizer obstructing the insertion of the boards shall be pushed :

- a) in the case of the downstream board, into the sample;
- b) in the case of the upstream board, out of the sample.

As quickly as possible, completely remove the material between the two boards into a suitable air-tight container.

Remove the boards or metal sheets and re-start the conveyor. Make sure that nothing has been left on the belt which could cause damage further down the line.

Repeat the process for each increment, the number or frequency of the increments being decided by the sampling scheme.

## 6 SAMPLING REPORT

The sampling report shall follow the provisions of ISO . . .

NOTE — Until this is published the following particulars shall be included :

- a) all information necessary for the complete identification of the sample;
- b) the method used, making reference to this International Standard;
- c) the sampling conditions;
- d) any operations not specified in this International Standard or regarded as optional, as well as any factors likely to have influenced the results.