

# International Standard



# 6384

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

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## Surface active agents — Technical ethoxylated fatty amines — Methods of analysis

*Agents de surface — Amines grasses éthoxylées techniques — Méthode d'analyse*

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**Descriptors :** surfactants, detergents, amines, tests, determination of content, water, alkalinity, polyethylene compounds, ashes, pH.

## 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 6384 was developed by Technical Committee ISO/TC 91, *Surface active agents*, and was circulated to the member bodies in October 1979.

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

|                     |                |                       |
|---------------------|----------------|-----------------------|
| Australia           | Hungary        | Romania               |
| Austria             | India          | South Africa, Rep. of |
| Belgium             | Italy          | Spain                 |
| Chile               | Japan          | Switzerland           |
| Egypt, Arab Rep. of | Korea, Rep. of | USA                   |
| France              | Netherlands    | USSR                  |
| Germany, F.R.       | Poland         |                       |

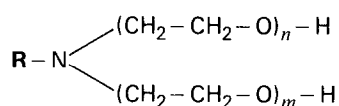
No member body expressed disapproval of the document.

This International Standard has also been approved by the International Union of Pure and Applied Chemistry (IUPAC).

# Surface active agents — Technical ethoxylated fatty amines — Methods of analysis

## 0 Introduction

The products which are the subject of this International Standard are ethers of fatty amines, corresponding to the general formula :



where

**R** is a saturated or unsaturated aliphatic radical which may have a mean chain length of 8 to 22 carbon atoms;

the sum ( $m + n$ ) may take all values according to the uses of the product, but varies generally between 1 and 50.

## 1 Scope

This International Standard specifies methods of analysis for technical ethoxylated fatty amines. It covers the following determinations :

- Measurement of apparent pH in methanolic medium.
- Determination of water content.
- Determination of the distribution of primary, secondary and tertiary amines contents.
- Determination of oxyethylene groups content.
- Determination of sulphated ash.
- Determination of free polyethylene glycols content.
- Examination of polyethylene glycols.

## 2 Field of application

This International Standard is applicable to technical ethoxylated fatty amines, in the form of flakes, in lumps, paste or liquid, and free from any products extraneous to their manufacture.

It is not applicable to ethoxylated derivatives of amido-amines and imidazolines.

## 3 References

ISO 607, *Surface active agents and detergents — Methods of sample division.*

ISO 2270, *Surface active agents — Ethylene oxide adducts — Iodometric determination of oxyethylene groups.*

ISO 4317, *Surface active agents — Determination of water content — Karl Fischer method.*

ISO 4322, *Non-ionic surface active agents — Determination of sulphated ash — Gravimetric method.*

ISO 4326, *Non-ionic surface active agents — Polyethoxylated derivatives — Determination of hydroxyl value — Acetic anhydride method.*

ISO 4327, *Non-ionic surface active agents — Polyalkoxylated derivatives — Determination of hydroxyl value — Phthalic anhydride method.*

## 4 General principle

On separate test portions :

- measurement of the apparent pH in methanolic medium;
- determination of the water content;
- determination of the distribution of primary, secondary and tertiary amines contents;
- determination of oxyethylene groups content;
- determination of sulphated ash.

Preparation of an aqueous or methanolic solution of a test portion, and isolation of the free polyethylene glycols; on the separated polyethylene glycols, verification of the absence of nitrogen and determination of their relative molecular mass.

## 5 Sampling

Prepare and store a laboratory sample of approximately 300 g of the crude product according to the instructions given in ISO 607.