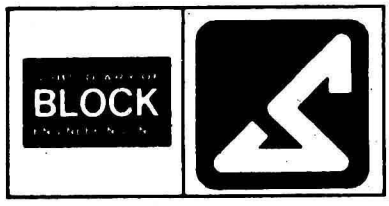


**SADTLER RESEARCH LABORATORIES, INC.**

# SURFACE ACTIVE AGENTS

CREATIVE CHEMISTS SINCE 1874

3316 SPRING GARDEN ST., PHILADELPHIA, PA. 19104
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The publication of the physical data of the Sadtler Standard Spectra and the Sadtler Commercial Spectra is intended to be descriptive. The samples of the materials represented have come generally from other sources than our own laboratories and frequently without the donors' knowledge of their part in this publication.

On the other hand every effort is made by Sadtler Research Laboratories, Inc. to assure the reliability of the published spectra. When improved data is available or errors are called to our attention we revise and reissue the proper replacement spectra.

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## SADTLER COMMERCIAL INFRARED SPECTRA

## SURFACE ACTIVE AGENTS

This publication is a comprehensive collection of infrared absorption spectra of industrial products possessing surface active properties. The catalog currently contains 5100 different, commercially-available materials from a wide variety of domestic and foreign manufacturers. Categories of materials included are; detergents, emulsifiers, antifoams, dispersants, softeners and sanitizing, flotation, wetting and penetration agents.

With the publication of volumes 15 through 17, spectra which are available in prism format only have been consolidated with the grating spectra to form the total publication.

> Volumes 15 and 17 (numbered 4201P - 4500P and 4801P - 5100P) are prism infrared spectra,
>
> Volume 16 (numbered 4501K - 4800K) contains grating infrared spectra.

Prism spectra were determined in the spectral region 2 to 15 microns and are presented on a transmittance vs. linear wavelength format. Grating spectra were determined on a high resolution grating spectrophotometer in the spectral region 4000 $cm^{-1}$ to 250 $cm^{-1}$ and are presented on a transmittance vs. linear frequency format.

Each spectrogram is labelled with the trade name of the product, a chemical description and physical data furnished by the manufacturer, the source of supply, the sample preparation technique and the instrument used to prepare the spectrum.

An alphabetical index of the products according to trade name, a chemical classification index and numerical indexes are supplied with the spectra collection. Detailed descriptions of the indexes are given in the preface to that section.

We gratefully acknowledge the continued cooperation of manufacturers in supplying the product samples used in the preparation of this spectra collection.

# SURFACE ACTIVE AGENTS

## GRATING SPECTRA

The 1967 publication of SURFACE ACTIVE AGENTS, GRATING SPECTRA, is an initial collection of 1000 infrared absorption spectra of industrial products possessing surface active properties. It is composed of detergents, emulsifiers, antifoams, dispersants, softeners, antistats and sanitizing, flotation, wetting and penetrating agents.

A Perkin-Elmer model 521 High Resolution grating spectrophotometer, using linear frequency abscissa presentation, was employed to determine spectra for 1000 products for which prism spectra are published in the Sadtler collection of "Surface Active Agents". The increasing appearance of grating instruments which offer higher resolution and an extended spectral range and the graphic differences in linear wave length and linear wave number curves have prompted Sadtler Research Laboratories to make both prism and grating collections available.

The spectra were determined in the spectral region 4000 $cm^{-1}$ to 250 $cm^{-1}$ (2.5 to 40 microns) with two grating changes: first order at 1997 $cm^{-1}$ - 1992 $cm^{-1}$ and second order at 634 $cm^{-1}$ - 632 $cm^{-1}$. The stray light filters incorporated in the instrument are at approximately 3138 $cm^{-1}$, 2490 $cm^{-1}$, 1520 $cm^{-1}$, 1130 $cm^{-1}$ and 390 $cm^{-1}$.

Each spectrogram is labelled with the trade name of the product, a chemical description and physical data furnished by the manufacturer, the source of supply, the manner in which the product was examined and the instrument used to scan the curve. Biodegradable materials are noted.

Prior to infrared analysis, the samples were dried to insure the complete removal of water or other solvents. In order to remove salts which would mask the absorption characteristics of the active ingredients, built products were extracted with ethanol.

An alphabetical list of the products according to commercial name and a classification index are furnished. The classification index, a tentative scheme of classifying the spectra, has been devised through several years of experience in using the catalog for practical studies. Its purpose is to establish an orderly arrangement of those spectra exhibiting similar overall curves. It is especially useful in respect to the characterization of "unknown" samples. It is possible, if the user so desires, to separate and file the spectra of similar materials in numerical sequence under the various group headings, and still rapidly locate the spectrum of a given product by trade name. The three digit number in the column to the left of the trade name in the alphabetical index indicates the code assigned the group to which each product belongs.

We gratefully acknowledge the continued cooperation of the various manufacturers in furnishing the product samples used in the preparation of this spectra collection.

The titles, subtitles and corresponding code numbers for the various classes appear in the following order.

Alcohols
010

Hydrocarbons
020

Soaps
030

Esters of long chain carboxylic acids
050 Mono and di glycol
060 Glycerol
070 Sorbitol, sorbitan, sorbide
100 Other alcohols

Miscellaneous esters
120

Compounds containing nitrogen
140 Primary, secondary, tertiary amines
150 Amino condensates, amides, alkanolamides
160 Quaternary ammonium salts (N not in heterocyclic ring)
170 Substituted cyclic nitrogen compounds
180 Alpha and beta amino acids
220 Miscellaneous

Sulfated and Sulfonated Materials

250 Sulfonated hydrocarbons

260 Lignosulfonates

300 Alkylarylsulfonates

310 Sulfated and sulfonated alcohols

320 Sulfated and sulfonated amines

330 Sulfated and sulfonated carboxylic acids

340 Sulfated and sulfonated amides

350 Sulfated and sulfonated carboxylic acid esters

390 Taurides

420 Miscellaneous

Sulfated and Sulfonated Polyalkoxylates

440 Ether
450 Ester

Polyalkoxylated Materials

Esters
520 Glycol esters of fatty acids
530 Sorbitol, sorbitan, sorbide esters of fatty acids
550 Glycerides
570 Other

**Ethers**
610 Alkylols
620 Alkylphenols
650 Other (cyclic alcohols, sterols, etc.)

Thioethers
680

Nitrogen compounds
720 Amines
730 Amino condensates

Miscellaneous
770

Other Materials
800 Phosphates

820 Silicates and silicones

840 EDTA, DTPA, NTA acids and salts

990 Miscellaneous

# SADTLER COMMERCIAL INFRARED SPECTRA

## SURFACE ACTIVE AGENTS

## GRATING SPECTRA

This is a comprehensive collection of the infrared absorption spectra of industrial products possessing surface active properties. This catalog contains 1800 grating spectra. It includes the spectra of detergents, emulsifiers, antifoams, dispersants, softeners, antistats and sanitizing, flotation, wetting and penetrating agents.

The spectra were determined on a Perkin-Elmer 521 high resolution grating spectrophotometer in the spectral region 4000 $cm^{-1}$ to 250 $cm^{-1}$ (2.5 to 40 microns) and are presented on a transmittance vs. linear frequency format. Two grating changes in the instrument occur at 1997 $cm^{-1}$ to 1992 $cm^{-1}$, (first order) and at 634 $cm^{-1}$ to 632 $cm^{-1}$ (second order). The stray light filters incorporated in the instrument are at approximately 3138 $cm^{-1}$, 2490 $cm^{-1}$, 1520 $cm^{-1}$, 1130 $cm^{-1}$ and 390 $cm^{-1}$.

Each spectrogram is labelled with the trade name of the product, a chemical description and physical data furnished by the manufacturer, the source of supply and the manner in which the product was examined. Biodegradable materials are noted.

Prior to infrared analysis, the samples were dried to ensure the complete removal of water or other solvents. In order to remove salts which would mask the absorption characteristics of the active ingredients, built products were extracted with ethanol.

An alphabetical index of the products according to trade name and a chemical classification index of the products are furnished with the collection.

We gratefully acknowledge the continued cooperation of the various manufacturers in furnishing the product samples used in the preparation of this spectra collection.

## SADTLER COMMERCIAL INFRARED SPECTRA

## SURFACE ACTIVE AGENTS

## INDEXES

The indexes to this collection consist of the alphabetical index and the chemical classification index.

The alphabetical index lists the products according to trade namé with their corresponding spectrum numbers in the prism or grating collections shown. Chemical name cross-references to trade names are also included when they are designated by the manufacturer. The number in the column to the left of the trade name in this index indicates the chemical classification code assigned to the type to which each product belongs.

The classification index, a scheme of arranging the spectra, has been devised through several years of experience in using the catalog for practical studies. Its purpose is to establish an orderly arrangement of those spectra exhibiting similar overall curves. It is especially useful in respect to the characterization of "unknown" samples. It is possible, if the user so desires, to separate and file the spectra of similar materials in numerical sequence under the various group headings and still rapidly locate the spectrum of a given product by trade name. The titles, subtitles and corresponding code numbers for the various classes are shown on the following page.

The code number in the column to the left of the spectrum numbers in each index is an arbitrarily assigned manufacturers code. Our index of manufacturers is updated annually and published with the Composite Alphabetical Index.

## CLASSIFICATION SCHEME

Alcohols
010

Hydrocarbons
020

Soaps
030

Esters of long chain carboxylic acids
050 Mono and di glycol
060 Glycerol
070 Sorbitol, sorbitan, sorbide
100 Other alcohols

Miscellaneous esters
120

Compounds containing nitrogen
140 Primary, secondary, tertiary amines
150 Amino condensates, amides, alkanolamides
160 Quaternary ammonium salts (N not in heterocyclic ring)
170 Substituted cyclic nitrogen compounds
180 Alpha and beta amino acids
220 Miscellaneous

Sulfated and Sulfonated Materials

250 Sulfonated hydrocarbons

260 Lignosulfonates

300 Alkylarlsulfonates

310 Sulfated and sulfonated alcohols

320 Sulfated and sulfonated amines

330 Sulfated and sulfonated carboxylic acids

340 Sulfated and sulfonated amides

350 Sulfated and sulfonated carboxylic acid esters

380 Isethionates

390 Taurides

420 Miscellaneous

Sulfated and Sulfonated Polyalkoxylates

440 Ether
450 Ester
470 Other

Polyalkoxylated Materials

Esters
520 Glycol esters of fatty acids
530 Sorbitol, sorbitan, sorbide esters of fatty acids
550 Glycerides
570 Other

Ethers
610 Alkylols
620 Alkylphenols
650 Other (cyclic alcohols, sterols, etc.)

Thioethers
680

Nitrogen compounds
720 Amines
730 Amino condensates

Miscellaneous
770

Other Materials
800 Phosphates

810 Polyelectrolytes

820 Silicates and silicones

840 EDTA, DTPA, NTA acids and salts

850 Halogen containing compounds

870 Corrosion Inhibitors

990 Miscellaneous

# SADTLER COMMERCIAL INFRARED SPECTRA

## SURFACE ACTIVE AGENTS

## GRATING SPECTRA

This is a comprehensive collection of the infrared absorption spectra of industrial products possessing surface active properties. This catalog contains 2100 grating spectra. It includes the spectra of detergents, emulsifiers, antifoams, dispersants, softeners, antistats and sanitizing, flotation, wetting and penetrating agents.

The spectra were determined on a Perkin-Elmer 521 high resolution grating spectrophotometer in the spectral region 4000 $cm^{-1}$ to 250 $cm^{-1}$ (2.5 to 40 microns) and are presented on a transmittance vs. linear frequency format. Two grating changes in the instrument occur at 1997 $cm^{-1}$ to 1992 $cm^{-1}$, (first order) and at 634 $cm^{-1}$ to 632 $cm^{-1}$ (second order). The stray light filters incorporated in the instrument are at approximately 3138 $cm^{-1}$, 2490 $cm^{-1}$, 1520 $cm^{-1}$, 1130 $cm^{-1}$ and 390 $cm^{-1}$.

Each spectrogram is labelled with the trade name of the product, a chemical description and physical data furnished by the manufacturer, the source of supply and the manner in which the product was examined. Biodegradable materials are noted.

Prior to infrared analysis, the samples were dried to ensure the complete removal of water or other solvents. In order to remove salts which would mask the absorption characteristics of the active ingredients, built products were extracted with ethanol.

An alphabetical index of the products according to trade name and a chemical classification index of the products are furnished with the collection.

We gratefully acknowledge the continued cooperation of the various manufacturers in furnishing the product samples used in the preparation of this spectra collection.

# SADTLER COMMERCIAL INFRARED SPECTRA

## SURFACE ACTIVE AGENTS

## INDEXES

The indexes to this collection consist of four sections: the alphabetical index, the classification index, the prism sequence numerical index and the grating sequence numerical index.

The alphabetical index lists the products according to trade name with their corresponding spectrum numbers in the prism or grating collections shown. Chemical name cross-references to trade names are also included when they are designated by the manufacturer. The number in the column to the left of the trade name in this index indicates the chemical classification code assigned to the type to which each product belongs.

The classification index, a scheme of arranging the spectra, has been devised through several years of experience in using the catalog for practical studies. Its purpose is to establish an orderly arrangement of those spectra exhibiting similar overall curves. It is especially useful in respect to the characterization of "unknown" samples. It is possible, if the user so desires, to separate and file the spectra of similar materials in numerical sequence under the various group headings and still rapidly locate the spectrum of a given product by trade name. The titles, subtitles and corresponding code numbers for the various classes are shown on the following page.

The numerical indexes, grating sequence or prism sequence provide a cross-referencing system that enables the user to locate whichever type of spectrum he requires.

The code number in the column to the left of the spectrum numbers in each index is an arbitrarily assigned manufacturers code. Our index of manufacturers is updated annually and published with the Composite Alphabetical Index.

## CLASSIFICATION SCHEME

Alcohols
010

Hydrocarbons
020

Soaps
030

Esters of long chain carboxylic acids
050 Mono and di glycol
060 Glycerol
070 Sorbitol, sorbitan, sorbide
100 Other alcohols

Miscellaneous esters
120

Compounds containing nitrogen
140 Primary, secondary, tertiary amines
150 Amino condensates, amides, alkanolamides
160 Quaternary ammonium salts (N not in heterocyclic ring)
170 Substituted cyclic nitrogen compounds
180 Alpha and beta amino acids
220 Miscellaneous

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340 Sulfated and sulfonated amides

350 Sulfated and sulfonated carboxylic acid esters

380 Isethionates

390 Taurides

420 Miscellaneous

Sulfated and Sulfonated Polyalkoxylates

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450 Ester
470 Other

Polyalkoxylated Materials

Esters
520 Glycol esters of fatty acids
530 Sorbitol, sorbitan, sorbide esters of fatty acids
550 Glycerides
570 Other

Ethers
610 Alkylols
620 Alkylphenols
650 Other (cyclic alcohols, sterols, etc.)

Thioethers
680

Nitrogen compounds
720 Amines
730 Amino condensates

Miscellaneous
770

Other Materials
800 Phosphates

810 Polyelectrolytes

820 Silicates and silicones

840 EDTA, DTPA, NTA acids and salts

850 Halogen containing compounds

870 Corrosion Inhibitors

990 Miscellaneous

SADTLER RESEARCH LABORATORIES, INC.

COMMERCIAL — INFRARED



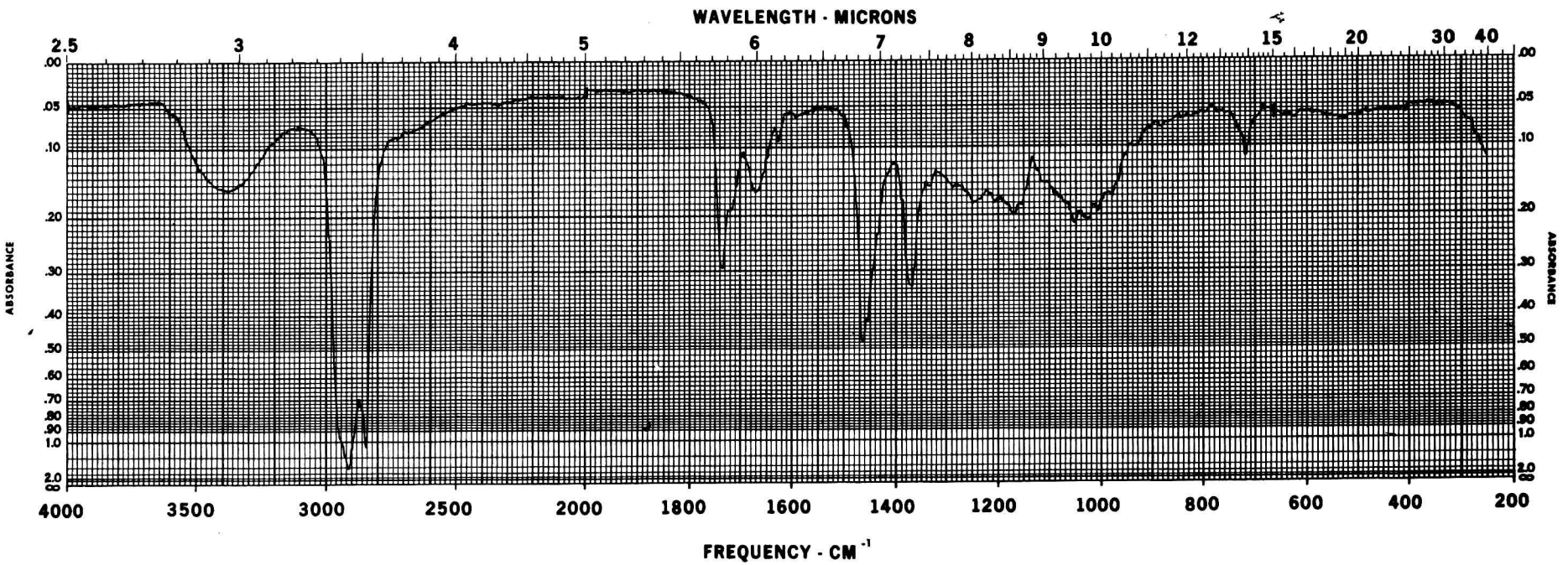
CHEMACTANT A-5 NONIONIC

TECHNICAL LANOLIN ALCOHOLS

A.V. 4 S.V. 30 I.V. 44 % Ash 0.3
Source: Chemactants, Inc.
Between Salts

SURFACE ACTIVE AGENTS

GRATING SPECTRA




SADTLER RESEARCH LABORATORIES, INC.
PHILADELPHIA, PA. 19104

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