

## Table of Contents

<b>High Purity Organic Molecular Crystals</b>	
Norbert Karl . . . . .	1
<b>Rare-Earth Germanates</b>	
Ludmila N. Demianets, Anatoly N. Lobachev, and	
Gennadi A. Emelchenko . . . . .	101
<b>Growth, Properties and Applications of Narrow-Gap Semiconductors</b>	
Horst Maier and Joachim Hesse . . . . .	145
<b>Author Index Volumes 1–4</b> . . . . .	221

# High Purity Organic Molecular Crystals

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The article reviews the preparation of highest purity organic crystals which are of rapidly growing importance for the understanding of basic processes and for the innovation of practical applications. High purity can be obtained by zone refining in combination with other methods. For the characterization of the crystals, grown from the melt or by sublimation, sensitive methods have been developed, being able to detect impurities down to well below 1 ppm. The author's extensive practical experience is condensed into reliable technical prescriptions and valuable advices and hints.

## Table of Contents

<b>1</b>	<b>Introduction</b>	4
1.1	Preface	4
1.2	Scope of the Field Covered	4
1.3	Some General Properties of Organic Molecular Crystals	8
1.4	Outline of the Paper	11
<b>2</b>	<b>Purification</b>	12
2.1	Zone Refining	12
2.1.1	Theoretical Aspects	12
2.1.2	Conclusions for the Laboratory	21
2.1.3	Practical Realization	26
2.1.4	Results and Improvements	32
a)	Illustrative Example	32
b)	Zone Refining Results with Easily Removable Impurities	33
c)	Experimental Distribution Coefficients	34
d)	Critical Zone Refining Tests	37
e)	Purification with $k$ Close to One	38
f)	Back Diffusion	38
g)	Other Difficult Systems	40
h)	Normal or Reverse Zone Refining?	40

i) Eutectic Zone Refining . . . . .	41
j) Complex Zone Refining . . . . .	41
2.2 Other Purification Techniques . . . . .	41
2.2.1 Sublimation . . . . .	41
2.2.2 Distillation . . . . .	42
2.2.3 Recrystallization . . . . .	42
2.2.4 Column Chromatography . . . . .	43
2.2.5 Purification via Chemical Reactions . . . . .	45
2.2.6 Synthetic Preparation . . . . .	46
2.3 Practical Results of Combined Purification Methods . . . . .	46
<b>3 Crystal Growth . . . . .</b>	<b>47</b>
3.1 Bridgman Growth . . . . .	47
3.1.1 General Aspects . . . . .	47
3.1.2 Material Transfer . . . . .	48
3.1.3 Practical Realization of Bridgman Growth . . . . .	49
a) Equipment . . . . .	49
b) Seeding . . . . .	51
c) Phase Boundary . . . . .	51
d) Speed . . . . .	51
e) Adhesion to the Wall . . . . .	52
f) Doping . . . . .	52
3.1.4 Examples of Bridgman Crystals . . . . .	53
3.2 Sublimation Growth . . . . .	55
3.2.1 General Aspects . . . . .	55
3.2.2 Sublimation Growth with Point-like Heat Sink . . . . .	56
3.2.3 Extended Heat Sink . . . . .	57
a) Capillary Sublimation . . . . .	58
b) Plate Sublimation . . . . .	59
3.2.4 Epitaxial Sublimation Growth . . . . .	65
3.3 Other Crystal Growth Techniques . . . . .	67
3.3.1 Nacken-Kyropoulos and Czochralski Growth . . . . .	67
3.3.2 Solution Growth . . . . .	68
3.3.3 Multiple Crystals from the Melt . . . . .	70
3.4 Comparison of Growth Methods . . . . .	70
<b>4 Characterization . . . . .</b>	<b>71</b>
4.1 Chemical Defects, General . . . . .	71
4.1.1 Analysis of Chemical Purity by Elemental Analysis . . . . .	72
4.1.2 Gas Chromatography . . . . .	72
4.1.3 Analytical Liquid Chromatography . . . . .	75
4.1.4 Mass Spectrometric Isotope Analysis . . . . .	76
4.1.5 Trace Detection by Optical Spectroscopy . . . . .	77
4.1.6 Lifetime of Triplet Excitons and Free Charge Carriers . . . . .	79
4.1.7 Selective Charge Carrier Detrapping . . . . .	82
4.1.8 Orientation of Guest Molecules by ESR and TTR . . . . .	83
4.1.9 X-Traps . . . . .	83

<b>4.2 Physical Defects . . . . .</b>	<b>83</b>
4.2.1 Lattice Vacancies . . . . .	83
4.2.2 Dislocations . . . . .	84
4.2.3 Mosaic Structure and Grain Boundaries . . . . .	85
4.2.4 Physical Defects and the Lifetimes of Excited States . . . . .	85
4.2.5 Thermal Detrapping . . . . .	85
<b>5 Preparation of Oriented Samples . . . . .</b>	<b>86</b>
5.1 Cleaving . . . . .	86
5.2 Orienting . . . . .	87
5.3 Cutting . . . . .	89
5.4 Polishing . . . . .	90
5.5 Storage . . . . .	91
<b>6 Properties and Applications . . . . .</b>	<b>91</b>
<b>7 References . . . . .</b>	<b>93</b>

# Rare-Earth Germanates

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## Table of Contents

<b>Introduction</b> . . . . .	102
<b>1 Structures of Rare-Earth Germanates</b> . . . . .	102
1.1 Non-Alkali Rare-Earth Germanates . . . . .	106
1.2 Alkali-Rare-Earth Germanates . . . . .	110
1.3 Rare-Earth Germanates Containing Divalent Cations . . . . .	116
<b>2 Preparation of Single Crystals of Rare-Earth Germanates</b> . . . . .	118
2.1 Crystallization of Rare-Earth Germanates from Flux . . . . .	118
2.2 Hydrothermal Synthesis of Rare-Earth Germanates in $\text{Ln}_2\text{O}_3\text{-GeO}_2\text{-R-H}_2\text{O}$ Systems . . . . .	119
2.2.1 Basic Regularities of Phase Formation in $\text{Ln}_2\text{O}_3\text{-GeO}_2\text{-NaOH-H}_2\text{O}$ Systems . . . . .	120
2.2.2 Basic Regularities of Phase Formation in $\text{Ln}_2\text{O}_3\text{-GeO}_2\text{-KF-H}_2\text{O}$ Systems . . . . .	123
2.3 General Regularities of Formation of Rare-Earth-Germanates in Hydro- thermal Systems $\text{Ln}_2\text{O}_3\text{-GeO}_2\text{-R-H}_2\text{O}$ . . . . .	126
2.4 Hydrothermal Synthesis of Mixed Germanates Containing Divalent and Rare-Earth Ions . . . . .	129
<b>3 Some Physico-Chemical Characteristics of Rare-Earth Germanates</b> . . . . .	129
3.1 Infra-Red Spectra of Rare-Earth Germanates . . . . .	130
3.2 Luminescence Properties of Rare-Earth Germanates . . . . .	134
3.2.1 Luminescence Spectra . . . . .	134
3.2.2 Excitation Spectra . . . . .	137
3.3 Diffuse Reflection Spectra . . . . .	138
3.4 Electric and Magnetic Properties of Rare-Earth Germanates . . . . .	139
<b>References</b> . . . . .	141

# Growth, Properties and Applications of Narrow-Gap Semiconductors

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*This article reviews selected properties of the narrow-gap semiconductors  $Pb_{1-x}Sn_xTe$ ,  $Pb_{1-x}Sn_xSe$  and  $Hg_{1-x}Cd_xTe$  which are accepted for infrared device applications, recently even in large-scale production.*

*The production aspect gave rise to a detailed description of the crystal growth as a first and decisive factor for device economy. Particular emphasis is placed on the important role of the thermodynamic parameters (phase diagrams) for growth, doping and physical properties of bulk crystals as well as epitaxial layers. The various growth methods are described and compared in detail.*

*The device aspect will be considered for photodetectors and tunable diode lasers as modern examples of applications in thermal imaging and gas spectroscopy around 10  $\mu m$ .*

## Table of Contents

1	Introduction	147
2	Device Requirements	149
2.1	Infrared Detectors	149
2.1.1	Photoconductive Detectors	149
2.1.2	Photovoltaic Detectors	152
2.2	Infrared Diode Lasers	154
3	Phase Diagrams	155
3.1	Solid-Liquid Phase Diagrams	156
3.1.1	T-x and T- $\delta$ Diagrams of $(Pb_{1-x}Sn_x)_{1+\delta}Te_{1-\delta}$	158
3.1.2	T-x and T- $\delta$ Diagrams of $(Pb_{1-x}Sn_x)_{1+\delta}Se_{1-\delta}$	161
3.1.3	T-x and T- $\delta$ Diagrams of $(Hg_{1-x}Cd_x)_{1+\delta}Te_{1-\delta}$	164
3.2	Solid-Vapor Phase Diagrams	166
3.2.1	p-T- $\delta$ Diagram of $Pb_{1-x}Sn_xTe$	167
3.2.2	p-T- $\delta$ Diagram of $Pb_{1-x}Sn_xSe$	170
3.2.3	p-T- $\delta$ Diagram of $Hg_{1-x}Cd_xTe$	171

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<b>3.3</b>	<b>Properties of Intrinsic Defects and Foreign Impurities . . . . .</b>	173
3.3.1	Native Defects in $Pb_{1-x}Sn_xTe$ and $Pb_{1-x}Sn_xSe$ . . . . .	173
3.3.2	Foreign Impurities in $Pb_{1-x}Sn_xTe$ and $Pb_{1-x}Sn_xSe$ . . . . .	174
3.3.3	Native Defects in $Hg_{1-x}Cd_xTe$ . . . . .	176
3.3.4	Foreign Impurities in $Hg_{1-x}Cd_xTe$ . . . . .	176
<b>4</b>	<b>Growth of Single Crystals . . . . .</b>	177
4.1	Growth of $Pb_{1-x}Sn_xTe$ and $Pb_{1-x}Sn_xSe$ . . . . .	178
4.1.1	Growth from the Melt . . . . .	178
4.1.2	Growth from the Solution . . . . .	182
4.1.3	Growth from the Vapor . . . . .	183
4.1.3.1	Synthesis of the Source Material . . . . .	183
4.1.3.2	Sublimation Growth Procedure . . . . .	185
4.2	Growth of $Hg_{1-x}Cd_xTe$ . . . . .	190
4.2.1	Growth from the Melt . . . . .	190
4.2.1.1	The Bridgman Growth . . . . .	190
4.2.1.2	Zone Melting and Travelling Solvent Growth . . . . .	191
4.2.2	Growth and Recrystallization from Slush . . . . .	193
4.2.3	Solid-State Recrystallization . . . . .	195
4.2.4	Stoichiometry Annealing . . . . .	198
<b>5</b>	<b>Growth of Epitaxial Layers . . . . .</b>	199
5.1	Epitaxy of $Pb_{1-x}Sn_xTe$ and $Pb_{1-x}Sn_xSe$ . . . . .	199
5.1.1	Liquid Phase Epitaxy . . . . .	199
5.1.2	Vapor Phase Epitaxy . . . . .	201
5.1.3	Vacuum Evaporation Epitaxy . . . . .	202
5.1.3.1	Molecular Beam Epitaxy . . . . .	202
5.1.3.2	Hot-Wall Epitaxy . . . . .	203
5.1.4	Rf Multicathode Sputtering . . . . .	206
5.2	Epitaxy of $Hg_{1-x}Cd_xTe$ . . . . .	207
5.2.1	Liquid Phase Epitaxy . . . . .	207
5.2.2	Vapor Phase Epitaxy . . . . .	208
<b>6</b>	<b>Modern Device Structures and Technologies . . . . .</b>	211
6.1	Infrared Detectors . . . . .	211
6.2	Infrared Diode Lasers . . . . .	213
<b>7</b>	<b>References . . . . .</b>	215