

# Product Information

## Ionac<sup>(R)</sup> NM-60



**Ionac<sup>(R)</sup> NM-60** is a high capacity mixed bed ion exchange resin consisting of a 1:1 chemically equivalent mixture of a gel, Type 1 strong base anion exchange resin and a gel strong acid cation exchange resin.

**Ionac<sup>(R)</sup> NM-60** is designed to meet many of the requirements found in the service-exchange and once-through cartridge markets. **Ionac<sup>(R)</sup> NM-60** applications include: make-up / mixed bed polishing, electronics / laboratory grade water, waste / water recovery, and process industries.

### Physical and Chemical Properties

### U.S. Units

### Metric Units

Functional group		sulfonic acid / quaternary amine		sulfonic acid / quaternary amine	
Matrix			div / styrene		div / styrene
Appearance		black / brown translucent		black / brown translucent	
Ionic form as shipped			H <sup>+</sup> / OH <sup>-</sup>		H <sup>+</sup> / OH <sup>-</sup>
Uniformity coefficient		max.	1.6	max.	1.6
Bead size*		US mesh	16 - 50	mm	0.3 - 1.25
Effective bead size	AB +/- 0.10			mm	0.50
Shipping weight	+/- 5%	lbs/ft <sup>3</sup>	43	g/l	688
Density				g/ml	1.10
Water retention*		max. %	60	max. %	60
Resistivity*	megohms	min.	16	min.	16
Column Capacity*	min. to 20,000 ohms/cm endpoint	Kgrs/ft <sup>3</sup>	12	eq/l	0.55
Stability	pH range		0 - 14		0 - 14
Stability	temp range	°F	34 - 140	°C	1 - 60
Storability	of product	max. months	6	max. months	6
Storability	temp range	°F	34 - 104	°C	1 - 40

\* Specification values subjected to continuous monitoring.

**MSDS:** Material Safety Data Sheets are available for all Sybron Chemicals Inc. products. The MSDS contains pertinent information that may be required to ensure safe handling and use of our products. It is recommended that copies of the MSDS be obtained by calling **1-800-678-0020** or **1-800-526-9377**.

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# Product Information

Ionac<sup>®</sup> NM-60



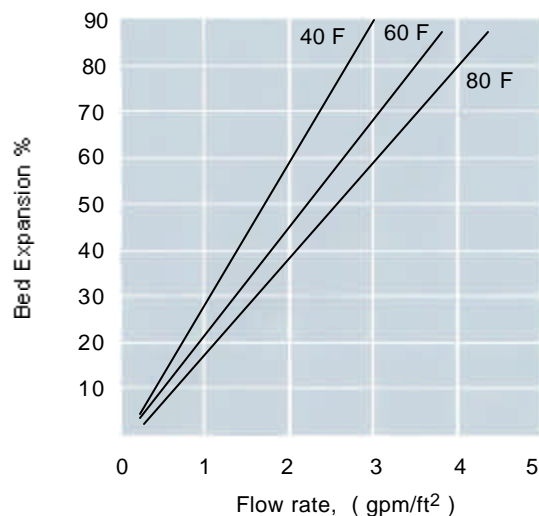
## Recommended Operating Conditions

### U.S. Units

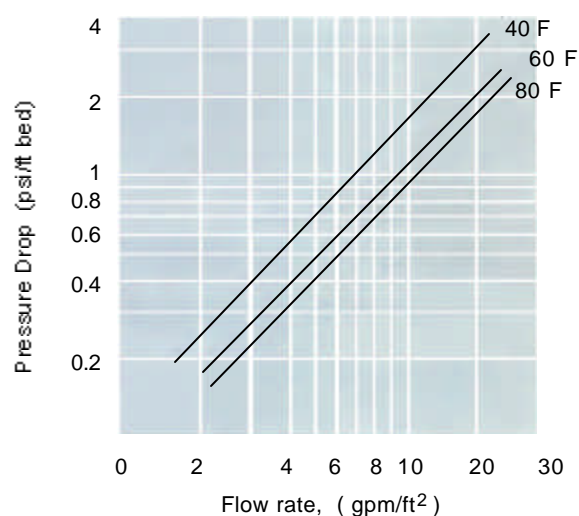
### Metric Units

Operating temperature		max. °F	140	max. °C	60
Operating pH range			0 - 14		0 - 14
Bed Depth		min. inches	31	min. mm	800
Pressure drop			see chart		see chart
Max. pressure loss		psi	28	Kpa	200
Surface flow rate	exhaustion	gpm/ft <sup>2</sup>	2 - 20	m/hr	5 - 50
Surface flow rate	backwash		see chart		see chart
Bulk flow rate	exhaustion	gpm/ft <sup>3</sup>	1 - 6	BV/hr	8 - 48
Bed expansion	%		50 - 75	%	50 - 75
Freeboard	% of bed depth		75 - 100		75 - 100
Regenerant	type		acid / NaOH		acid / NaOH
Regenerant	level	lbs/ft <sup>3</sup>	6 - 15	g/l	96 - 240
Regenerant	concentration	%	1-6 / 3-4	%	1-6 / 3-4
Surface flow rate	regeneration	gpm/ft <sup>2</sup>	0.4-4	m/hr	1-10
Surface flow rate	rinse, slow / fast	gpm/ft <sup>2</sup>	0.4-4 / 5-20	m/hr	1-10 / 12-50
Bulk flow rate	regeneration	gpm/ft <sup>3</sup>	0.25 - 1.0	BV/hr	2 - 8
Bulk flow rate	rinse, slow / fast	gpm/ft <sup>3</sup>	0.2-1.0 / 1-4	BV/hr	2-8 / 8-32
Rinse water requirements	slow / fast	gal/ft <sup>3</sup>	7-15 / 45-60	BV	1-2 / 6-8

**Backwash Expansion**



**Pressure Loss**



linear velocity: m/hr = gpm/ft<sup>2</sup> X 2.44      pressure drop: kPa = psi X 6.89476

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## Additional Information and Regulations

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### Safety precautions

Strong oxidants, e.g. nitric acid, can cause violent reactions when in contact with ion exchange resins.

### Toxicity

The material safety data sheet must be observed. The MSDS contains additional data on product description, transport, storage, handling, safety and ecology.

### Storage

It is recommended to store ion exchange resins at temperatures above the freezing point of water. Ion exchange resin should not be stored in direct sunlight. If the resin should become frozen, the resin should be left to thaw out at ambient temperature before handling. No attempt should be made to accelerate the thawing process.

### Disposal

The MSDS contains additional data on product safety and disposal.

The manner in which you use and the purpose to which you put and utilize our products, technical assistance and information (whether verbal, written or by way of production evaluations), including any suggested formulations and recommendations are beyond our control. Therefore, it is imperative that you test our products, technical assistance and information to determine to your own satisfaction whether they are suitable for your intended uses and application. This application-specific analysis must at least include testing to determine suitability from a technical as well as health, safety, and environmental standpoint. Such testing has not necessarily been done by us. Unless we otherwise agree in writing, all products are sold strictly pursuant to the terms of our standard conditions of sale. All information and technical assistance is given without warranty or guarantee and is subject to change with notice. It is expressly understood and agreed that you assume and hereby expressly release us from liability, in tort, contract or otherwise, incurred in connection with the use of our products, technical assistance, and information. Any statement or recommendation not contained herein is unauthorized and shall not bind us. Nothing herein shall be construed as a recommendation to use any product in conflict with patents covering any material or its use. No license is implied or in fact under the claims of any patent.

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