



### FEATURE REPORTS

#### Solids Processing (Two-part feature)

##### Particle caking and solids flow aids

Fine solid materials have a tendency to cake and agglomerate. Because of this tendency, gravity flow from bins and hoppers sometimes requires flow aids to avoid processing issues. This article provides an overview of various types of flow aids, including key considerations for their use.

##### Solids drying

This article will offer a primer on the fundamentals of process drying.

**Related products:** Solids-handling equipment, bins, hoppers, silos, slide gates, chutes, feeders and also ovens, drum dryers, fluidized-bed dryers, rotary dryers

**Relevant industries:** Many segments of the CPI require solids handling, including chemical manufacturing, agricultural, biotechnology, pharmaceuticals, food, ceramics, polymers and wood-processing, among others

#### Compressors

This two-part feature article will cover a wide range of compressor-related issues, including monitoring and mitigating pulsations in reciprocating compressors. Also, the feature will provide an examination of several situations where specialized compressors are required.

**Related products:** Compressors, motors, seals, bearings, maintenance-management tools and software, vibration-analysis diagnostic tools

**Relevant industries:** Compressors are an integral part of processes across the CPI.

**Don't miss your chance to be included  
in this month's Solids Processing  
Special Ad Section!**

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**Bonus Distribution at the PTXI Powder  
and Bulk Solids Conference & Exhibition**

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### FRACTIONATION COLUMN

This monthly column in *CE* is written by the technical director at Fractionation Research Inc., a consortium of end-users, engineering companies and distillation equipment providers that pool budgets on distillation research.

**Related equipment and services:** Distillation towers; trays and packings; tower-scanning equipment and services.

**Relevant industries:** This column addresses segments across the entire CPI

### NEWSFRONT

#### CO<sub>2</sub> capture technology

As regulations and government targets for reducing carbon dioxide get more stringent, the need for efficient and economical CO<sub>2</sub>-capture technology continues to grow. This month's Newsfront will present the latest in CO<sub>2</sub>-capture technology, including absorption, membrane and other methods.

**Related products:** Absorbants, gas scrubbers and associated equipment (compressors, pumps, valves, heat exchangers and so on); membranes

**Relevant industries:** Power generation, petroleum refining and large-scale chemical complexes will be affected by any legislation requiring CO<sub>2</sub> emissions

*Send editorial material for consideration to senior editor Gerald Ondrey (gondrey@che.com).*

#### Equipment for handling air-sensitive chemicals

Some materials, such as catalysts and alkyl compounds that are pyrophoric, must be handled in the absence of air. This month's Equipment Newsfront will present the latest equipment and technology recently developed for working with such materials.

**Related products:** Glove boxes; inerting gases and systems; product transfer valves and devices; oxygen and moisture sensors

**Relevant industries:** Fine chemicals, pharmaceuticals, electronics and other chemical-production sectors

*Send editorial material for consideration to contributing editor Joy LePree Ondrey (jlepree@che.com).*



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### FACTS AT YOUR FINGERTIPS

#### Fire Prevention and Suppression

Static electrical discharges have the potential to ignite fires and spark explosions. This one-page reference will discuss strategies to avoid static charges in several industrial situations.

**Related products:** electrical grounding apparatus, fire-prevention systems; fire detection monitoring devices, explosion protection systems

**Relevant industries:** All sectors of the CPI need to be vigilant of static electricity's potential to cause fires

### FOCUS

#### Temperature Measurement and Control

This Focus will present some of the latest products available for measuring and controlling temperature in the chemical process industries (CPI).

**Relevant industries:** Temperature is a parameter that is measured throughout the CPI and is very important for reactions, storage, safety and more.

**Related equipment and services:** All types of temperature sensors, including wireless, thermocouples, infrared and so on; as well as software for temperature monitoring and control and temperature control systems

*Editorial submissions for consideration in this Focus should be sent to Dorothy Lozowski (dlozowski@che.com)*

### ENGINEERING PRACTICE

#### Principles of P&ID Development

Designing complete, accurate P&IDs is important to support various engineering disciplines, throughout planning and operation of the facility, to support environmental health and safety (EHS) and hazard and operability (HAZOP) studies, to plan and schedule equipment-related

requirements, and more. This article provides detailed information to support the efforts of process engineers, as they develop and deploy P&IDs.

**Related equipment:** All chemical process equipment components (pumps, valves, heat exchangers, distillation towers, dryers and more), pipes and piping systems, instrumentation and alarm systems, software related to P&ID development and equipment sizing

**Relevant industries:** All industries throughout the CPI use P&IDs

### SHOW PREVIEWS

#### Powder & Bulk Solids 2014

This show preview will include short descriptions of the products and services that will be on display at the International Powder & Bulk Solids Conference and Exhibition. The event is taking place May 6-8 in Rosemont, Ill.

**Related equipment and services:** Solids handling technologies, bulk solids conveying and processing equipment, powder processing technologies and equipment, bins, silos, and other storage equipment for solids or powders

**Relevant industries:** Any sector of the CPI where solid materials, such as powders, granules or pellets, are processed

*For editorial consideration for this section, please send product-related press releases and photos (at least 300 dpi) to Chemical Engineering associate editor Mary Page Bailey (mbailey@che.com). The products and services described in the press release should be those slated to be on the exhibit floor at the Powder & Bulk Solids Conference. Please include "PTXI 2014 Show Preview" in the subject line of the email.*

#### IFAT ENSORGA

IFAT ENSORGA (May 5-9; Munich, Germany) is said to be the world's most important tradefair for water, sewage, waste and raw materials management. This issue includes a preview of the products and services on display at the exhibition.

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April 24, 2014

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**Related equipment: and services:** Wastewater treatment and all the associated equipment (pumps, valves, tanks, process control systems, piping, sensors, sparging systems, and much more)

**Relevant industries:** All sectors of the CPI generate waste that must be treated.

*Editorial material for consideration should be sent to senior editor Gerald Ondrey (gondrey@che.com).*