

Science[®] News

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Incorporating Science News Letter

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COVER: A mosaic of plastic aerosol parts symbolizes the ubiquity of synthetic polymers in modern society. But deaths from vinyl chloride exposure have heightened suspicions about other plastics ingredients. See p. 154. (Photo: Exxon)

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To the Editor

Metric pressure units

I have been following the comments about the metric system pressure units with great interest. As a high school teacher I try to place a little more emphasis on the metric system each year.

I have been using "newtons/meter²" as the basic pressure unit. I've gone so far as to suggest that the name "pascal" will almost certainly be adopted and that the "megapascal" which would be a newton per square millimeter would therefore be the most probable unit for unit stress. (I teach strength of materials, machine design, materials testing, etc.)

After reading the various letters to the editor that you've published (and I have no idea how many others haven't been printed), I am now a little unsure as to how to proceed.

Michael R. Richardson
Instructor
Saunders Trades and Technical
High School, Yonkers N.Y.

Walter Rees (SN: 7/20/74, p. 35) questioned your use of kilograms per square metre (kg/m²) in describing the surface pressure on Venus (SN: 3/16/74, p. 176). He quoted *Principles of Physics*, by Sears, as defining "pressure as the force per unit area" and expressing force "in newtons or dynes, mass in kilograms or grams and pressure in newtons/m² or dynes/cm²." He then concluded that you had expressed pressure "in mass per unit area instead of force per unit area."

In your reply, you said: "It should have read kg/cm². And that's how the Russians do it. Evidently they don't read Sears."

Apparently the Russians don't read their international agreements either—and neither do we Americans. There is only one internationally standardized metric system today—the International System of Units (SI), which has been approved by both the U.S.S.R. and the U.S.A. SI obsoleted both the cgs and the mks systems.

The only SI unit for pressure is the pascal (Pa), which equals one newton per square metre (N/m²) or 0.101 971 6+ kilogram-force per square metre (kgf/m²). (The confusion between kilogram-mass and kilogram-force was one of the reasons for adopting SI.) Thus, in internationally standard units, the pressure on Venus should have read "9.1 MPa," rather than "93 kg/cm²."

SI units are described well in International Standard (ISO) 1000, available from the American National Standards Institute (ANSI) in New York City.

Robert Spahr
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Halothane findings

Since I subscribe to SCIENCE NEWS, I was very interested in the handling of your report on our halothane-learning study (SN: 8/17/73, p. 103), material which I know intimately from my own involvement. I was very pleased with the fair and accurate presentation of our work, and the care exercised to place it in perspective regarding its implications. It is still a finding requiring further research and documentation before we can be sure that further regulation of halothane is required for human safety.

I find your publication an interesting, informative and pleasant way for the busy specialist to keep abreast of the developments and excitement of science across the broad array of its endeavors. Your care in pointing up controversy or disagreement about findings is particularly appreciated and helps avoid the merely sensational while retaining the flavor of ferment in science.

Robert E. Bowman
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Influencing events

Regarding the cheating incident at the Institute for Parapsychology (SN: 8/17/74, p. 100): Did anyone ever consider the possibility that the rats, finding themselves unable to psychically influence the stimulating machinery, accomplished their pleasure through control of its operator? Why not? When the Post Office logjams your magazines, you don't vent your influence on the mechanical sorters, do you? Or do you?

Robert L. Dawes
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Austin, Texas

'Confessions' response

The volume of response to Jonathan Eberhart's article "Confessions of a Space Freak" (SN: 7/27/74, p. 51) has been astonishing. We can't possibly print even a small fraction of the letters, but we are preparing a summary, with typical short excerpts, for a future issue.—The Editor.

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