

Definition of a *Davar Hadosh*

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This paper was adopted on November 7, 1984 by a vote of 13-1-3. Members voting in favor: Rabbis Kassel Abelson, Isidoro Aizenberg, Morris Feldman, Robert Gordis, David H. Lincoln, Judah Nadich, George Pollak, Mayer E. Rabinowitz, Barry S. Rosen, Phillip Sigal, David Wolf Silverman, Henry A. Sosland and Alan J. Yuter. Voting in opposition: Rabbi Joel Roth. Members abstaining: Rabbis Salamon Faber, Morris M. Shapiro and Gordon Tucker.

SHE'ELAH

The presence of chemical additives in so many foods presents a problem for those who observe kashrut. Some of the additives may be derived from substances that were originally non-kosher. Is there a point at which such additives lose their original character, and therefore foods containing them can be considered kosher?

TESHUVAH

The answer to this question is crucial, for almost all processed foods contain additives. How we answer this question, therefore, will determine whether vast numbers of food products whose main ingredients are kosher will be considered kosher, or because of a minuscule amount of chemical additives be considered non-kosher and not permitted for observant Jews.

Two previous responsa by Dr. Isaac Klein, "The Kashrut of Gelatin" and "The Kashrut of Cheeses," deal with the kashrut of food additives,¹ as does the responsum adopted by the Committee on Jewish Law and Standards, "The Kashrut of Mono- and Di-Glycerides," which also appears in this volume. A key principle is cited by Dr. Klein when he says that "the term *davar hadash, panim hadashot* used by Rabbi Hayyim Ozer Grodzinsky reflects an important principle: when a substance goes through a transformation that changes it into something completely new, it also loses its former status in regard to being forbidden food."² Based on this conclusion, "a substance treated by another substance which transforms it

chemically thus becomes a *panim hadashot*."³

Rabbis Jeffrey Bocarsly and Joel Roth, in their paper "Toward a Definition of *Davar Hadosh*," raise the question of criteria by which to judge whether the chemical 'transformation' of a food additive is sufficient to change its kashrut status.⁴ They suggest the adoption of a standard for the creation of a *davar hadash* as follows: "Any chemical reaction which breaks a carbon-to-carbon bond in the central (i.e., non-substituent) carbon skeleton of an organic compound, or breaks a connecting linkage between two macromolecule subunits, creates a *davar hadash*." The reason for this, they assert, is to "insure that major and truly fundamental chemical change has occurred before it can be considered a *davar hadash*."

There is no halakhic need to depart from common usage and to arbitrarily define a *davar hadash* as the breaking of a carbon bond. The ordinary language of chemistry provides us with an appropriate definition which meets the rabbinic criterion for visible change in the food additive which is chemically "a compound." A compound is defined as a substance "composed of atoms or ions of two or more elements in chemical combination." Chemical combination means the *presence of bonds or valence forces between* the constituent atoms.

Whenever a new bond forms, a new compound is created. One way is by the breaking of old bonds. When a bond breaks, a so-called transient species forms that normally can exist for only a short period of time. It has no choice but to then enter into bond formation because by so doing, a stable compound is usually formed. If this compound is not the same one that led to the transient species -- and this can readily be determined by chemical analysis -- then a new compound has been created.⁵ Thus, the simplest way to define *davar hadash* is a new compound formed by the breaking of old chemical bonds, and the forming of new bonds. (See diagram at end of paper.)

Chemical analysis can determine whether such a chemical change has taken place, and a new compound is present. A new compound will exhibit different physical properties, which meets the rabbinic criterion of visible change. If the new compound performs a different function than the old compound, it is a further indication that it is a *davar hadash* (e.g., mono- and di-glycerides function as emulsifiers, while tri-glycerides function as fat).

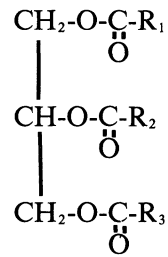
To further clarify the definition, it should be noted that extracts which can be easily reconstituted into the original material (e.g., skim milk powder by the addition of water), are *not* new compounds, and therefore *not* considered *davar hadash*. Substances which are new compounds, but which easily revert to their original state (e.g., sodium caseinate in an acid environment reverts back to the original casein)⁶ are special cases which require additional study and are not included in the above definition of *davar hadash*.

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CONCLUSION

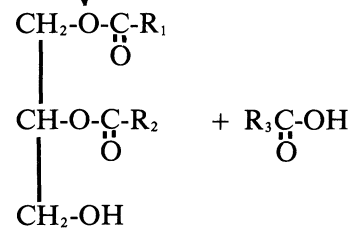
Chemical additives which meet the criteria of *davar hadash* when added to food do not affect the kashrut of the food product.

NEW COMPOUND FORMATION



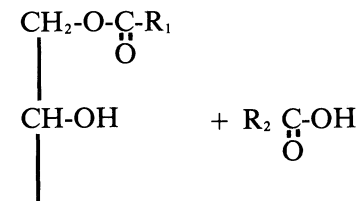
Where R₁ R₂ and R₃ are carbon chains of varying size, e.g., R₁ = C₁₇ H₃₅

Triglyceride
↓ + H₂O



Diglyceride (new compound) Fatty acid

↓ + H₂O



Monoglyceride (new compound) Fatty acid

NOTES

1. Isaac Klein, "The Kashrut of Gelatin" and "Kashrut," *Responsa and Halakhic Studies* (KTAV Publishing House, 1975), 59-74; 43-58.
2. Isaac Klein, "The Kashrut of Gelatin," 71.
3. Isaac Klein, "Kashrut of Gelatin," 72.
4. RALA, unpublished responsum. Cf. September 12 and November 7, 1984 Meeting Minutes for a discussion of this paper.
5. Definition based on conversation with Dr. Harold Wittcoff, a Director of Process Evaluation/Research Planning of Chemical Systems, and Professor Maurice Kreevay of the Department of Chemistry of the University of Minnesota.
6. According to Dr. Marvin Steinberg, Professor of Food Engineering, University of Illinois.

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MARRIAGE

