Message

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Subject: InsideEPA - Chloroprene

EPA Denies Petition To Ease Chloroprene Risk Level After Lengthy Review

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EPA has turned down an industry request to "correct" its controversial Integrated Risk Information System (IRIS) assessment of chloroprene, a chemical used to make synthetic rubber, saying its extensive peer review process "substantially exceeds" its mandatory response to Data Quality Act (DQA) petitions and should not "be interpreted as setting a precedent for any future . . . request."

The agency sent a March 14 letter denying Denka Performance Elastomers' request for consideration (RFC) of the 2010 chloroprene assessment.

The move follows several years of intense federal and state scrutiny on emissions of the chemical from Denka's LaPlace, LA, facility based on EPA's IRIS findings and modeling from the 2018 National Air Toxics Analysis (NATA) that identified the releases as a cancer risk to the surrounding community.

Denka has for years argued that the IRIS assessment overstates chloroprene's cancer risks and has created friction between it, the local community and regulators. But EPA's March 14 letter, first reported by *The Intercept*, says that after two separate RFC submissions, one reconsideration request and two peer reviews of the company's claims, it has found those arguments unpersuasive.

"The materials submitted by Denka present new analyses and express views on how these products should be used in the risk assessment of chloroprene, but the Denka submission does not identify errors in the 2010 IRIS assessment," EPA's acting research chief Maureen Gwinn writes.

"After careful consideration, EPA has concluded that the underlying information and conclusions presented in the 2010 IRIS Toxicological Review of Chloroprene and its supporting materials are consistent with EPA's Information Quality Guidelines (U.S, 2002). Hence the RFC is denied."

The final decision is unsurprising, as it follows earlier unsuccessful attempts by Denka to convince EPA to redo its IRIS assessment. Moreover, the agency rarely grants DQA petitions more generally; the burden laid out in the statute often proves too taxing for challengers to surmount. Nor does DQA explicitly allow for judicial review of a denial.

But unlike many other DQA cases, the chloroprene process took years as EPA discussed and reviewed Denka's scientific arguments. And while it is unclear why the agency chose to take that path, it warns in the letter that it is not setting a new standard for responses to other petitions.

EPA is not required to "evaluate the potential impact of new scientific information on an existing IRIS toxicity value," Gwinn writes in the response adding that the "courtesy review" it conducted in the Denka case "substantially exceeds EPA's commitment toward addressing an RFC and should not be interpreted as setting a precedent for any future RFC request."

Important Programmatic Factors

And she further notes that although scientific knowledge and risk data on a chemical can change over time, "the RFC process is not a mechanism to commit EPA to undertake scientific updates of its risk assessment products, such as IRIS Toxicological Reviews," since the decision to revise a risk assessment depends on several factors outside the availability of new data, like IRIS' budget and the needs of EPA program offices.

"EPA Information Quality Guidelines recognize explicitly that a decision to launch an updated assessment depends on important programmatic factors and resource availability. Given the finite resources of the IRIS Program, IRIS assessment activities are based on the priority needs of EPA National Program and Regional Offices identified through a structured internal nomination process," Gwinn writes.

Gwinn adds that any new information sent to the agency in the RFC process would be considered in a fresh risk assessment only if "(1) the topic is identified as a National Program or Regional Office priority need, and (2) acceptance of the nomination by the IRIS Program given available resources. Importantly, the availability of new scientific information does not necessarily mean that existing IRIS toxicity values are outdated or not based upon the best available science."

EPA denied Denka's original RFC challenge to the IRIS assessment in January 2018, based on a systematic review conducted by IRIS staff where they concluded that no information published to that point materially changed the outcome of the 2010 assessment.

But after Denka submitted a request for reconsideration (RFR) of that denial in 2018, top EPA risk assessors reached an agreement with the company's consultants to analyze and potentially advance to peer review a new physiologically based pharmacokinetic (PBPK) model that could be used to revise the 2010 assessment.

Such models are generally used to project absorption, distribution, metabolism and excretion (ADME) of synthetic or natural chemical substances in humans and animal species and to compare species' internal doses in risk analyses.

But the peer review, managed by EPA contractor Versar, was critical of the Denka-sponsored model. Though the committee did not provide a consensus report -- as is the practice of contractor-manager peer reviews -- four of the nine reviewers stated in the panel's report that EPA should not adopt the PBPK model developed by Ramboll Environ consultants hired by Denka.

The agency's March 14 letter notes that two months after the January 2021 peer review report, Denka withdrew its RFR and filed a new RFC in July -- which is the document EPA formally denied this month.

'New Unpublished Modeling Analyses'

EPA describes Denka's latest RFC as containing "new unpublished modeling analyses of the same *in vitro* database, more extensive statistical analyses, comparison with one *in vivo* study, and introduces modeling for reactive metabolites that has not been previously reviewed," and notes that it conducted a separate "follow-on independent letter peer review" of that revised model to inform its decision.

EPA's description of that previously unannounced second peer review reiterates that it is "not obligated to review unpublished works submitted under the RFC/RFR process."

It adds, "the RFC process does not require that EPA evaluate the potential impact of new scientific information on an existing IRIS toxicity value. However, because of significant investment by both Denka and EPA in considering the new PBPK approaches EPA is providing a technical analysis as part of its consideration of the July 2021 RFC."

The agency explains in a technical analysis that it conducted a letter peer review "by asking available peer reviewers from the Fall 2020 peer review" to consider the new information from Denka and advise the agency whether it revised earlier concerns and was suitable for use in revising the IRIS assessment.

And it says the "peer reviewers noted significant improvements in the model analysis, but multiple reviewers' comments and recommendations indicate that key uncertainties remain."

EPA continues that flaws named by the reviewers include "fundamental model assumptions, e.g., that chloroprene itself is treated as inactive but may be reactive and that data from studies on a different compound can be used to infer key metabolic rates. Some reviewers raised questions regarding whether the model was sufficiently reliable for use in risk assessment or, minimally, that additional experimental data should be obtained, and further analyses conducted to more fully quantify uncertainties."

Gwinn closes the response by reminding Denka that it can file a fresh RFR within 90 days of the date of the response letter. -- *Maria Hegstad* (mhegstad@iwpnews.com)