

Initial Risk-Based Prioritization of High Production Volume Chemicals

Methyl Acetoacetate (CAS No. 105-45-3) (9th and CA Index Name: Butanoic acid, 3-oxo-, methyl ester)

This document is based on screening-level characterizations done by EPA on the environmental fate, hazard, and exposure of the listed chemical. The information used by EPA includes data submitted under the HPV Challenge Program¹ and the 2006 Inventory Update Reporting (IUR)², and data publicly available through other selected sources³. This screening-level prioritization presents EPA's initial thinking regarding the potential risks presented by this chemical and future possible actions that may be needed. These initial characterization and prioritization documents do not constitute a final Agency determination as to risk, nor do they determine whether sufficient data are available to characterize risk. Rather, they are interim evaluations. Recommended actions may be considered by EPA in the future based on a relative judgment regarding this chemical in comparison with others evaluated under this program, and in light of the uncertainties presented by gaps in the available data that may be determined to exist. These evaluations contribute to meeting U.S. commitments under the chemicals cooperation work being done in North America⁴ through the EPA Chemical Assessment and Management Program (ChAMP)⁵.

Hazard and Fate Summary:

- **Human Health:** Available data indicate that the potential acute and chronic toxicity of this chemical is low.
- **Environment:** Available data indicate that the potential acute hazard of this chemical is low to fish, aquatic invertebrates, and aquatic plants.
- **Persistence and Bioaccumulation:**
 - Available data indicate that this chemical has low persistence.
 - Available data indicate that this chemical has low bioaccumulation potential.

Exposure Summary:

- Both Confidential Business Information (CBI) and non-confidential information from IUR and other sources were used in developing this initial prioritization.
- **Production Volume:** This chemical is an HPV chemical manufactured and/or imported in the U.S. with an aggregated production volume in the range of 10-50 million pounds in 2005.
- **Uses:** Non-confidential information in the IUR indicates that the chemical is used primarily as an intermediate in the production of organic chemicals that include pesticides and color pigments, and as a solvent for cellulose ethers. According to the IUR submissions, there are no commercial/consumer uses of this chemical.

¹ US EPA, HPV Challenge Program information: <http://epa.gov/hpv/>.

² US EPA, IUR information: <http://www.epa.gov/oppt/iur/index.htm>.

³ US EPA, Information on additional public databases used: <http://www.epa.gov/hpvis/pubdtsum.htm>.

⁴ US EPA, U.S. Commitments to North American Chemicals Cooperation:
<http://www.epa.gov/hpv/pubs/general/sppframework.htm>.

⁵ US EPA, ChAMP information: <http://www.epa.gov/champ/>.

- General Population and Environment: It is likely that there would be some releases to water and/or air during manufacturing, processing, and use as a chemical intermediate. Based on environmental fate, known uses, and its natural occurrence in wood smoke, EPA identifies a medium potential that the general population and the environment might be exposed to this chemical, although the degree to which this exposure may be attributed to TSCA uses could not be determined from the available references.
- Workers: The chemical has a vapor pressure that could result in worker exposures to vapors if workers are near the liquid. EPA identifies a medium relative ranking for potential worker exposure based on the potential inhalation exposure to vapor only, the moderate vapor pressure, limited industrial uses, and no known commercial uses. This chemical does not have an OSHA Permissible Exposure Limit (PEL).
- Consumers: No consumer uses are reported in the IUR submissions, nor were any found in other data sources. EPA identifies a low potential that consumers might be exposed to this chemical.
- Children: No uses in products specifically intended to be used by children were reported in the IUR, nor were any found in other data sources. Therefore, EPA identifies a low potential that children might be exposed to this chemical.

Risk Characterization Summary:

- Potential Risk to Aquatic Organisms from Environmental Releases: *LOW CONCERN*. EPA identifies a medium potential that aquatic organisms might be exposed from environmental releases. This chemical has low persistence and low bioaccumulation. These characteristics, in combination with the low toxicity for aquatic organisms, indicate a low concern for potential risk to fish, aquatic invertebrates, and aquatic plants.
- Potential Risk to the General Population from Environmental Releases: *LOW CONCERN*. EPA identifies a medium potential that the general population might be exposed from environmental releases. The potential human health hazard is expected to be low due to the lack of specific toxicity to animals following exposure to high doses. The low hazard and the environmental fate characteristics of low persistence and low bioaccumulation together suggest a low concern for potential risk to the general population from environmental releases.
- Potential Risk to Workers: *LOW CONCERN*. EPA identifies a medium relative ranking for potential worker exposure. The potential human health hazard is expected to be low. There is potential for eye, skin, respiratory and digestive tract irritation. Available information suggests a low concern for potential risk to workers.
- Potential Risk to Consumers from Known Uses: *LOW CONCERN*. EPA identifies a low potential that consumers might be exposed. The potential human health hazard is expected to be low. Therefore, the available information suggests a low concern for potential risk to consumers.
- Potential Risk to Children: *LOW CONCERN*. EPA identifies a low potential that children might be exposed. The potential human health hazard is expected to be low. Therefore, the available information suggests a low concern for potential risk to children.

Regulatory and Related Information Summary:

- This chemical is listed on the TSCA Inventory. It is not otherwise regulated under TSCA.

- This chemical is listed as an air emission from major stationary sources of pollution regulated under Section 111 of the Clean Air Act.

Assumptions and Uncertainties:

- EPA has no information on releases of this chemical, and assumes potential exposures based on reported uses.
- There is uncertainty regarding the extent of personal protective equipment used by workers who may be exposed to this chemical.

Rationale Leading To Prioritization Decision:

- Available data suggest a low hazard to the environment and to humans in all potential exposure groups.
- Hazard communication and standard industrial hygiene practices, if properly followed, may be sufficient to address irritation concerns for occupational exposures.

Prioritization Decision:

- LOW PRIORITY – Follow-up action not suggested at this time.

Supporting Documentation:

Screening-Level Risk Characterization: August 2008

Screening-Level Hazard Characterization: August 2008

Screening-Level Exposure Characterization: August 2008