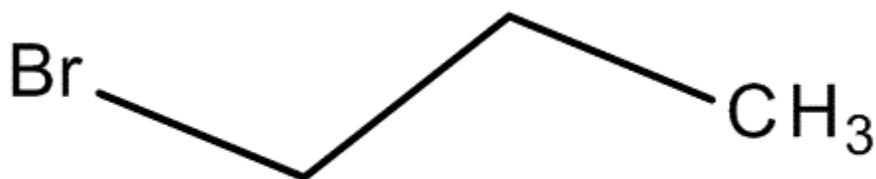


**Nontechnical Summary of the Risk Evaluation for**  
**1-Bromopropane**  
**(*n*-Propyl Bromide)**

**CASRN: 106-94-5**



## BACKGROUND

- 1-BP is used as a solvent, including in degreasing operations, spray adhesives and dry cleaning, in several industries. 1-BP is also used as a reactant in the manufacturing of other chemical substances. Consumer uses of 1-BP include several applications including aerosol degreaser, spot cleaner and stain removers. 1-BP is also used in insulation for building and construction materials.
- Data from the 2016 [Chemical Data Reporting](#) cycle show the total manufactured volume, including imports, was nearly 26 million pounds of 1-BP in the U.S in 2015.

## ACTION

- EPA is releasing a final risk evaluation on 1-bromopropane (1-BP). After evaluating 25 conditions of use of 1-BP, EPA has determined that 1-BP presents an unreasonable risk for 16 conditions of use.
- This final risk evaluation is conducted pursuant to the Toxic Substances Control Act (TSCA), as amended by the Frank R. Lautenberg Chemical Safety for the 21<sup>st</sup> Century Act, which requires EPA to prioritize and evaluate the safety of existing chemicals to determine whether a chemical presents an unreasonable risk of injury to health or the environment under the conditions of use. If a chemical is determined to present an unreasonable risk, EPA must regulate the substance to address the unreasonable risk.
- The final risk evaluation and supplemental materials can be found in docket EPA-HQ-OPPT-2019-0235 on [www.regulations.gov](http://www.regulations.gov).
- 1-BP was selected in 2016 as one of the first 10 chemicals for risk evaluation under section 6 of TSCA.
- Public comments and external scientific peer review informed the development of the 1-BP final risk evaluation. EPA published the 1-BP draft risk evaluation in August 2019, the 1-BP problem formulation document in May 2018, and the scope document in June 2017.

## KEY POINTS

- After evaluating 25 conditions of use of 1-BP, EPA determined that 1-BP presents an unreasonable risk of injury for 16 conditions of use.
- For the conditions of use found to present unreasonable risk, EPA's determination is based on unreasonable risks of injury to health for workers and occupational non-users<sup>1</sup> (ONUs) during occupational exposures, or for consumers and bystanders during exposures to consumer use.
- EPA's unreasonable risk determinations are due to developmental toxicity from acute exposures, and developmental toxicity and cancer from chronic exposures.
- The conditions of use for which unreasonable risks were found include: processing the chemical into formulation; use as solvent in industrial and commercial cleaning and degreasing, including vapor degreasing, cold cleaning and spray and aerosol degreasers; use in adhesives and sealants; use in dry cleaning and spot cleaning for clothing; use in several specialty spray/aerosol applications. Additionally, the conditions of uses for which unreasonable risks were found for the consumer uses include: solvent in aerosol spray degreasers/cleaners, spot cleaners and stain removers, liquid cleaner used for coins or

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<sup>1</sup> ONUs are workers that are in the vicinity of, but are not actively working with, the chemical substance.

scissors, liquid spray/aerosol cleaners, adhesive accelerants used in arts, crafts, and hobby materials, automotive care products such as refrigerant flush, and anti-adhesive agents used in mold cleaning and release products.

- The conditions of use that EPA determined do not present an unreasonable risk include domestic manufacture, import, processing as a reactant, incorporation into articles, repackaging, recycling, distribution in commerce, commercial and consumer use in insulation, and disposal.
- In the final risk evaluation, EPA determined there are no unreasonable risks under TSCA to the general population from all conditions of use. The Agency does not expect general population general population exposure from contaminated from surface water, drinking water, or sediment via the oral and dermal routes.
- Potential exposure to 1-BP from ambient air and hazardous waste are under the jurisdiction of other EPA-administered statutes: the Clean Air Act, the Safe Drinking Water Act, and the Resource Conservation and Recovery Act. Therefore, these exposure pathways are not part of this risk evaluation.
- EPA also determined that 1-BP does not present an unreasonable risk to the environment under any conditions of use.
- EPA released the draft risk evaluation for 1-BP in August 2019 for a 60-day public comment period. Additionally, EPA held a peer review meeting of the Science Advisory Committee on Chemicals (SACC) on the draft risk evaluation of 1-BP on September 10-12, 2019. The report of the SACC on 1-BP is in the docket (EPA-HQ-OPPT-2019-0235-0061). Along with the final risk evaluation, EPA is releasing a document that provides a response to public and peer review comments.

#### **NEXT STEPS**

- EPA has issued the final risk evaluation for 1-BP, meeting the requirements set forth in TSCA section 6(b) for chemical risk evaluations. EPA is now initiating the process to address the unreasonable risks identified. EPA has two years following the issuance of the final risk evaluation to address, by rule, the unreasonable risks identified.

#### **SUMMARY OF UNREASONABLE RISK DETERMINATIONS**

EPA has determined that the following conditions of use of 1-BP do not present an unreasonable risk of injury to health or the environment. These determinations are considered final agency action and are being issued by order pursuant to TSCA section 6(i)(1). The details of these determinations are presented in Section 5.2, and the TSCA section 6(i)(1) order is contained in Section 5.4.1 of the final risk evaluation.

<b>Conditions of Use that Do Not Present an Unreasonable Risk</b>
<ul style="list-style-type: none"><li>• Manufacturing (domestic manufacture)</li><li>• Manufacturing (import)</li><li>• Processing: as a reactant</li><li>• Processing: incorporation into articles</li><li>• Processing: repackaging</li><li>• Processing: recycling</li><li>• Distribution in commerce</li><li>• Commercial and consumer uses of building/construction materials (insulation)</li><li>• Disposal</li></ul>



EPA has determined that the following conditions of use of 1-BP present an unreasonable risk to human health. EPA will initiate TSCA section 6(a) risk management actions on these conditions of use as required under TSCA section 6(c)(1). Pursuant to TSCA section 6(i)(2), the unreasonable risk determinations for these conditions of use are not considered final agency action.

<b>Processing that Presents an Unreasonable Risk</b>
<ul style="list-style-type: none"><li>• Processing: incorporation into a formulation, mixture, or reaction product.</li></ul>

#### **Industrial and Commercial Uses that Present an Unreasonable Risk**

- Processing: incorporation into formulation, mixture, or reaction products.
- Industrial and commercial use as solvent for cleaning and degreasing in vapor degreaser (batch vapor degreaser – open-top, inline vapor degreaser).
- Industrial and commercial use as solvent for cleaning and degreasing in vapor degreaser (batch vapor degreaser – closed-loop).
- Industrial and commercial use as solvent for cleaning and degreasing in cold cleaners.
- Industrial and commercial use as solvent in aerosol spray degreaser/cleaner.
- Industrial and commercial use in adhesives and sealants.
- Industrial and commercial use in dry cleaning solvents, spot cleaners and stain removers.
- Industrial and commercial use in liquid cleaners (e.g., coin and scissor cleaner) and liquid spray/aerosol cleaners.
- Other industrial and commercial uses: arts, crafts, hobby materials (adhesive accelerant); automotive care products (engine degreaser, brake cleaner, refrigerant flush); anti-adhesive agents (mold cleaning and release product); electronic and electronic products and metal products; functional fluids (close/open-systems) – refrigerant/cutting oils; asphalt extraction; laboratory chemicals; and temperature indicator – coatings.

#### **Consumer Uses that Present an Unreasonable Risk**

- Consumer use as solvent in aerosol spray degreasers/cleaners.
- Consumer use in spot cleaners and stain removers.
- Consumer use in liquid cleaner (e.g., coin and scissor cleaner).
- Consumer use in liquid spray/aerosol cleaners.
- Consumer use in arts, crafts, hobby materials (adhesive accelerant).
- Consumer use in automotive care products (refrigerant flush).
- Consumer use in anti-adhesive agents (mold cleaning and release product),