

Massachusetts Chemical Fact Sheet SUMMARY

n-Propyl Bromide (nPB or 1-bromopropane)



n-Propyl bromide (nPB) is a hazardous chemical although it may be inaccurately marketed as a "green," or nonhazardous solvent.

What are common uses of nPB?

- Metal cleaning/degreasing
- A solvent carrier in adhesives
- Dry cleaning
- As a chemical processing intermediate or extraction solvent
- nPB is generally found where solvents such as trichloroethylene (TCE), perchloroethylene (perc), and methylene chloride were once used. However, scientific evidence indicates that nPB is not a safer substitute for these chemicals.

What health effects are associated with nPB exposure?

- nPB can be harmful when you breathe it or if it gets on your skin.
- Exposure to nPB can damage your brain, nervous system, and reproductive organs.
- Damage to your nerves may be irreversible.
- nPB may cause cancer.

What are symptoms that nPB may be harming me?

- Irritated eyes, nose, throat or respiratory tract.
- Feeling confused, dizzy or tired.
- Poor coordination or trouble walking.
- Trouble talking.
- Tingling or numbness in hands or feet.

Are there other precautions when using nPB?

- nPB products need to be appropriately stabilized or they will corrode equipment and can emit toxic hydrogen bromide gas. Chemicals used to stabilize nPB vary and are proprietary so if you have concerns, contact the manufacturer.

How do I know whether products I use contain nPB?

- Check the material safety data sheet (MSDS) for: Chemical Abstract Service (CAS)#106-94-5.
- Are you using one of the products below?
 - Some products below may have changed their ingredients, so check the MSDS.
 - Some additional nPB-containing products are no longer on the market, but may still be present in your workplace. Again, check the MSDS.

PRODUCTS CONTAINING nPB

Trade names of nPB solvent-based degreasing, lubrication, extraction & cleaning agents [not a comprehensive list]

Abzol (Albemarle)	Metalnox M6960 (Kyzex)
Alpha VaporEDGE 1000 (Cookson Electronics)	Misty Safety Solvent 2000 (Amrep)
Contact Cleaner (Blaster)	NPB Heavy Duty Cleaner Degreaser (MG Chemicals)
DrySolv (Envirotech)	Pensolv PB2000 (West Pentone)
Ensolv A, CW, EX, GCS & Ionic (Envirotech)	Solvon ACS, AER, DR, IP, PB & PBA (Poly Systems)
Entron and Entron-Aero (Reliance)	Techtride NPB (Parts Cleaning Technologies)
GenTech (Reliance)	Triagen (Ecolink)
Hypersolve (Ecolink)	VDS-3000 (SuperKleen/Albatross)
Instant Super Degreaser II, NoFlash, Electra-X (LPS)	X-CEL, XCEL IC (Western Chemical International)
Lenium ES, GS, XS, RV (Petroferm)	

Trade names of adhesives containing nPB - [not a comprehensive list]

Whisper Spray (Henkel)	Endurabond Normac 900R-NPB (Blair Rubber Co)
K-Grip 501 Spray Adhesive (Maple Leaf Sales II)	Soft Seam Adhesive (Spectrum Adhesives, formerly Mid-South Adhesives)

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Are there alternatives to using nPB?

- A range of alternatives exist for nPB for use in a number of degreasing, cleaning and adhesives applications.
- For example, safer alternatives to solvent-based degreasing include aqueous and semi-aqueous processes, including the use of soaking or ultrasonic equipment.
- Questions about alternatives?
 - Call the TURI lab: 978-934-3133
 - Visit the cleaner solutions database: www.cleanersolutions.org

Are there regulations for nPB?

Environmental/Public Health Regulations

- nPB is a reportable toxic chemical under the Massachusetts Toxics Use Reduction Act. Massachusetts facilities that use large quantities of nPB must report on their uses and conduct toxics use reduction planning.
- The Environmental Protection Agency (EPA) recommends disposing of nPB in the same way as other regulated halogenated solvents.
- EPA has issued a proposed rule whereby nPB use as an aerosol solvent or as an adhesive carrier solvent would be unacceptable.
- EPA has not established regulations for nPB as hazardous waste or to ensure safe air and water.
- California Proposition 65 lists nPB as a developmental/reproductive toxicant.
- Pennsylvania lists nPB on its hazardous substance list.
- The European Union classifies it as R60 (may impair fertility) and R63 (possible risk of harm to the unborn child).

Occupational Health Regulations

- No federal agency has established safe exposure limits for workers using nPB.
- In 2005, the American Conference of Governmental Industrial Hygienists (ACGIH) set a Threshold Limit Value of 10ppm (time weighted average (TWA)).
- In 2009, the California Occupational Safety and Health Standards Board established a limit of 5 ppm (TWA).
- Neither ACGIH's nor California's current exposure limit reflects recent reports of health effects in workers exposed to levels as low as 1 ppm, or the potential of nPB to cause cancer. Thus, employers and workers are advised to keep nPB exposures as low as possible and below 1ppm.

Whom to Contact for More Information about nPB

- **Safe working practices**, Massachusetts Department of Labor Standards, On-Site Consultation Program:
 - 508-616-0461
- **Massachusetts Toxic Use Reduction Act regulatory compliance**, Massachusetts Department of Environmental Protection:
 - 617-292-5500
 - www.mass.gov/dep/toxics/toxicsus.htm
- **Confidential toxics use reduction technical assistance**, MA Office of Technical Assistance and Technology:
 - 617-626-1078
 - www.mass.gov/eea/ota
- **Technical assistance regarding safer cleaning alternatives**, TURI Lab:
 - 978-934-3133
 - www.cleanersolutions.org
- **General toxics use reduction policy and technical questions**, TURI:
 - 978-934-3275
 - www.turi.org

For references and additional information, see Toxics Use Reduction Institute, *Massachusetts Chemical Fact Sheet: n-Propyl Bromide*, October 2011. Available at <http://www.turi.org/factsheet/nPB>.



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