



**Novec**<sup>TM</sup>  
Brand

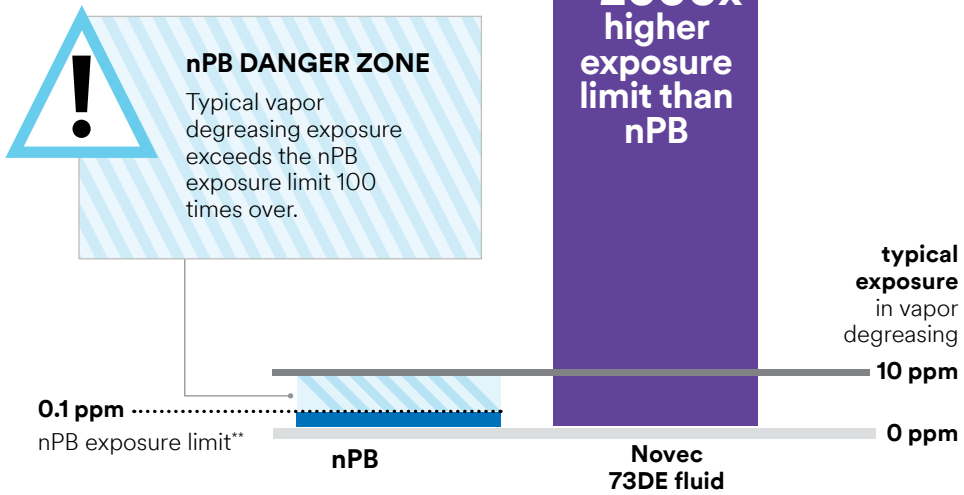
3M<sup>TM</sup> Novec<sup>TM</sup> 73DE Engineered Fluid

# Put safety first.

Are you still using n-propyl bromide (also known as nPB, 1-BP or 1-bromopropane) for vapor degreasing? Learn why you should switch to 3M<sup>TM</sup> Novec<sup>TM</sup> 73DE Engineered Fluid – a smart, safe and sustainable alternative.

## nPB is not recommended for typical vapor degreasing applications

Typical worker exposure during vapor degreasing with nPB could exceed the exposure limit, unless potentially costly facility upgrades and personal safety equipment are implemented.



\* EPA SNAP Program, Docket ID EPA-HQ-OAR-2002-0064-0015

\*\* The 195 ppm value is the molar weighted average of the component 8-hr threshold limit values.

## Time is running out for nPB

Regulatory pressure has increased due to safety concerns when using nPB as they have been increasingly targeted for phase-down. For some countries, the phase-out day is approaching fast.

|                                                                       | Novec 73DE fluid | nPB                                    |
|-----------------------------------------------------------------------|------------------|----------------------------------------|
| Subject to phase-out in the European Union*                           | No               | Yes, July 4, 2020                      |
| Use reporting required by U.S. Environmental Protection Agency (EPA)  | No               | Yes                                    |
| Under U.S. Department of Defense (DoD) advisory                       | No               | Yes                                    |
| OSHA/NIOSH Hazard Alert issued                                        | No               | Yes                                    |
| Halogenated Component on US EPA Hazardous Air Pollutants (HAP) list** | No               | Petition to add granted, June 18, 2020 |

\* <https://echa.europa.eu/authorisation-list>

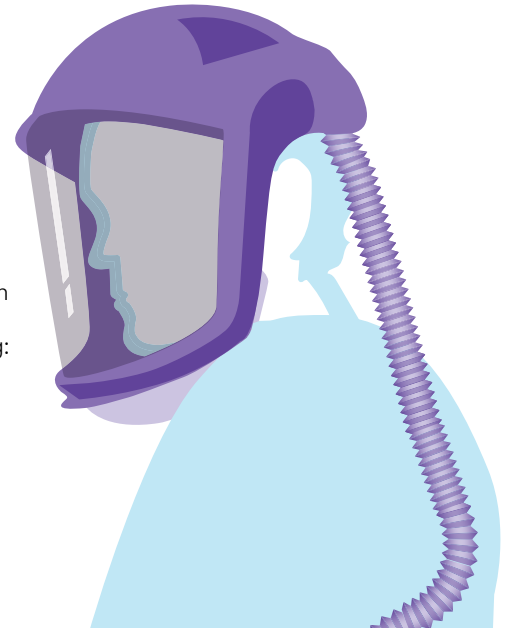
\*\* <https://www.govinfo.gov/content/pkg/FR-2020-06-18/pdf/2020-13145.pdf>

## nPB shows significant health effects

It is potentially hazardous to women of childbearing age, as it may cause adverse developmental effects.

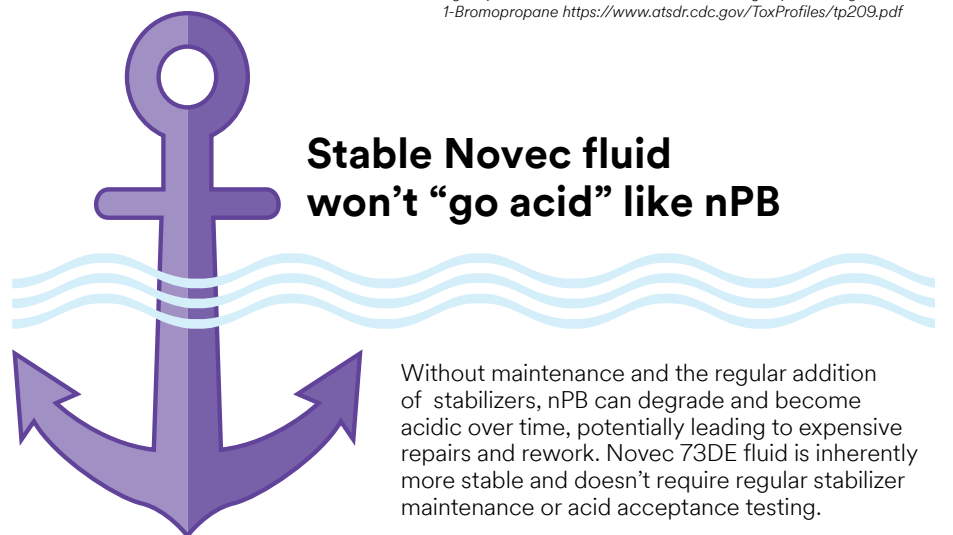
Additionally, non-cancer and cancer health effects were identified for workers with repeated and chronic exposures, including:

- ▶ Neurotoxicity
- ▶ Kidney toxicity
- ▶ Liver toxicity
- ▶ Reproductive toxicity
- ▶ Lung cancer



Typical nPB vapor degreasing exposures necessitate use of engineering controls or use of either (1) a full facepiece, helmet or hood supplied air respirator or (2) a powered air purifying respirator (PAPR) to help protect workers.\*

\* Agency for Toxic Substances and Disease Registry Toxicological Profile for 1-Bromopropane <https://www.atsdr.cdc.gov/ToxProfiles/tp209.pdf>

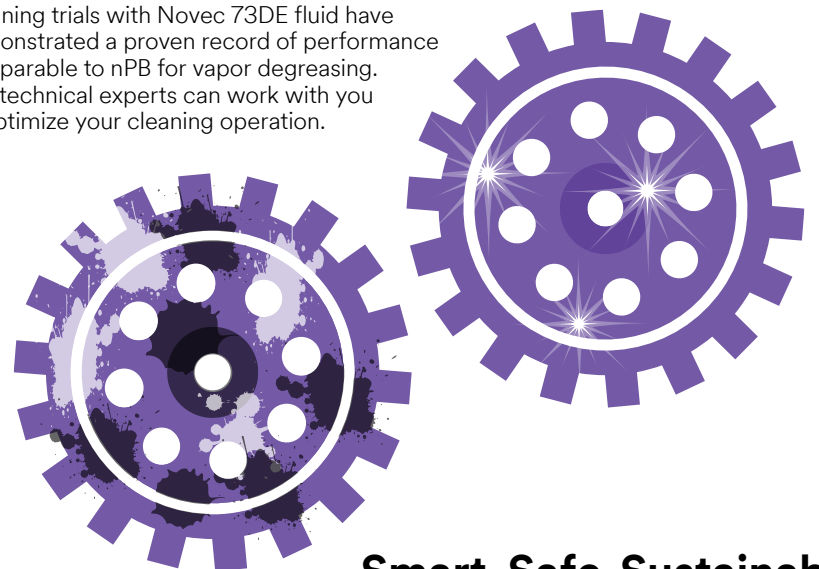


## Stable Novec fluid won't "go acid" like nPB

Without maintenance and the regular addition of stabilizers, nPB can degrade and become acidic over time, potentially leading to expensive repairs and rework. Novec 73DE fluid is inherently more stable and doesn't require regular stabilizer maintenance or acid acceptance testing.

## Proven cleaning performance

Cleaning trials with Novec 73DE fluid have demonstrated a proven record of performance comparable to nPB for vapor degreasing. Our technical experts can work with you to optimize your cleaning operation.



**Smart. Safe. Sustainable.**



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