# Article information:

Effect of temperature on wall sticking of heavy oil in low-temperature transportation - ScienceDirect  
<https://www.sciencedirect.com/science/article/pii/S0920410521006045?via%3Dihub>

# Article summary:

1. A new method for predicting the wall sticking occurrence temperature of heavy oil has been developed.

2. The process of oil sticking to pipeline wall includes the adhesion region and cohesion region, with van der Waals interaction being the main drive force of adhesion.

3. Temperature affects the interfacial properties of heavy oil, with polar components in heavy oil significantly affecting the contact angle and interfacial tension.

# Article rating:

May be slightly imbalanced: The article presents the information in a generally reliable way, but there are minor points of consideration that could be explored further or claims that are not fully backed by appropriate evidence. Some perspectives may also be omitted, and you are encouraged to use the research topics section to explore the topic further.

# Article analysis:

The article “Effect of temperature on wall sticking of heavy oil in low-temperature transportation” is a well-researched and reliable source that provides an in-depth analysis into how temperature affects the wall sticking of heavy oil during low-temperature transportation. The article is based on experiments conducted using surface adhesion apparatus (SAA), contact angle measurements, interfacial tension calculations, molecular simulation (MD) and van der Waals (VDW) interaction studies. The article also provides evidence from previous studies to support its claims, making it a trustworthy source for information on this topic.

However, there are some potential biases present in the article that should be noted. For example, while the article does provide evidence from previous studies to support its claims, it does not explore any counterarguments or alternative explanations for its findings. Additionally, while the article does mention possible risks associated with low-temperature transportation techniques, it does not provide any detailed information about these risks or how they can be mitigated. Furthermore, while the article does discuss both sides of the issue equally, it could have done more to present both sides equally by providing more detail about each side's arguments and evidence.

In conclusion, while this article is a reliable source for information on how temperature affects wall sticking of heavy oil during low-temperature transportation, there are some potential biases present that should be noted when using this source as a reference.

# Topics for further research:

* Low-temperature transportation risks
* Mitigation strategies for low-temperature transportation
* Surface adhesion apparatus (SAA)
* Contact angle measurements
* Interfacial tension calculations
* Molecular simulation (MD) and van der Waals (VDW) interaction studies

# Report location:

<https://www.fullpicture.app/item/63fa55fbaac0e37a10304786f97f1ee2>