

Product Stewardship Summary

Effective date: 1 September 2019

Supersedes: 12 December 2018

Diesel Fuel #2

General Statement

Diesel Fuel #2 is a complex combination of paraffinic, cycloparaffinic, olefinic, and aromatic hydrocarbons produced by the distillation of crude oil, consisting of predominantly hydrocarbons in the C9-C20 ranges. Diesel Fuel #2 is a moderate to high hazard material and risk of adverse health effects associated with occupational and consumer use of this chemical is anticipated to be low to moderate.

Chemical Identity

Name: Diesel Fuel #2

Brand Names: Not Applicable

Chemical name (IUPAC): Fuels, diesel, No. 2

CAS number(s): 68476-34-6

EC number: 270-676-1

Molecular formula: NA

Structure: NA

Uses and Applications

Diesel Fuel #2 is a hydrocarbon mixture that is used in the processing of other chemicals such as surface-active agents, adhesives, rubber products, industrial coatings, and lubricants.

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Physical/Chemical Properties

Phys/Chem Safety Assessment

Property	Value
Form	Liquid
Physical state	Liquid
Color	Yellow to dark
Odor	Petroleum odor
Density	0.8 – 0.91 g/cm ³
Melting / boiling point	-40°C to 6°C /141°C to 462°C
Flammability	Flammable liquid category 3
Explosive properties	Not explosive
Self-ignition temperature	225°C
Vapor pressure	0.4 kPa at 40°C
Mol weight	NA
Water solubility	1.9x10 ⁻⁵ - 3.9 mg/L at 25°C
Flash point	55-75 C
Octanol-water partition coefficient (Log _{k_{ow}})	4.5-9.9

Exposure, Hazard and Safety Assessment

The following section describes possible exposure scenarios and hazards associated with Diesel Fuel #2. The exposure assessment describes both the amount of and the frequency with which a chemical substance reaches a person, a population of people, or the environment. Hazard refers to the inherent properties of a substance that make it capable of causing harm to human health or the environment. The safety assessments, below, report the possibility of a harmful event arising from exposure to a chemical or physical agent under specific conditions. Just because a substance may possess potentially harmful properties does not mean that it automatically poses a risk. It is not possible to make that determination without understanding the nature of the exposure.

Human Health Effects

Human Exposure Assessment

Consumer: Diesel Fuel #2 is used in the processing of other chemicals such as surface-active agents, adhesives, rubber products, industrial coatings, and lubricants. The most likely way for a consumer to be exposed to Diesel Fuel #2 is by breathing in vapors off-gassing from products or from using solvents that contain Diesel Fuel #2

Worker: Workers are unlikely to be exposed to Diesel Fuel #2, as the substance is manufactured and handled in enclosed operations with local exhaust ventilation will be used whenever possible. Personal protective wear will be used when handling this material. In the case of accidental or unintended

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exposure, workers should follow the recommended safety measures listed in the Safety Data Sheet (SDS).

Human Hazard Assessment:

Diesel Fuel #2 has the potential to elicit both acute (inhalation) and repeat dose toxicity effects (thymus, liver, bone marrow). It can cause skin irritation and is suspected of causing cancer. Diesel Fuel #2 is neither mutagenic or genotoxic and is not associated with adverse effects on fertility or development.

Effect Assessment	Result
Acute Toxicity Oral / inhalation / dermal	Harmful if inhaled May be fatal if swallowed and enters airways
Irritation / corrosion Skin / eye / respiratory test	Causes skin irritation
Toxicity after repeated exposure Oral / inhalation / dermal	STOT: May cause damage to thymus, liver, or bone marrow through prolonged or repeat exposure
Genotoxicity / Mutagenicity	Not classified
Carcinogenicity	Suspected of causing cancer
Reproductive Toxicity	Not classified

Human Health Safety Assessment

Consumer: Diesel Fuel #2 is used as a chemical intermediate, and as such is not a direct add into consumer products. Consumers would be exposed to diesel fuel in low amounts through residual off-gassing of products manufactured with Diesel Fuel #2.

Worker: Workers in chemical plants using Diesel Fuel #2 may be exposed during handling and transport. Dangerous exposures most commonly occur through inhalation, oral exposures are also toxic. Diesel Fuel #2 is to be manufactured and handled in closed environments with adequate ventilation. INEOS has PPE and training requirements in place to minimize the risk of worker exposure to Diesel Fuel #2 as well as procedures to safely respond to Diesel Fuel #2 exposures.

Environmental Effects

Environmental Exposures

Diesel Fuel #2 is readily biodegradable. Based on aquatic toxicity studies, there is a potential for Diesel Fuel #2 to cause adverse effects in aquatic organisms.

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Environmental Hazard Assessment

Effect Assessment	Result
Aquatic Toxicity	Toxic to aquatic life with long lasting effects

ate and behavior	Result
Biodegradation	Diesel Fuel #2 is classified as readily biodegradable following OECD 301C
Bioaccumulation potential	A representative hydrocarbon assessment determines an unlikely potential to bioaccumulate. This BCF suggests the potential for bioaccumulation in the aquatic organisms is low.
PBT / vPvB conclusion	Not PBT or vPvB

Environmental Safety Assessment

If released into the environment, Diesel Fuel #2 is anticipated to be readily biodegradable; however, the potential exists for lasting toxicity effects to aquatic organisms.

Risk Management Recommendations

Exposure to Diesel Fuel #2 in the workplace can be controlled by sufficient ventilation, proper handling and storage techniques, and the use of appropriate personal protective equipment as recommended in the SDS. Consumer products that could contain possible residual Diesel Fuel #2 should include appropriate safety labeling and provide applicable handling and disposal methods.

A selection of occupational exposure limits is provided below:

- ACGIH TLV: (8h TWA): 100 ppm -inhal, vapor, skin

Regulatory Agency Review

Diesel Fuel #2 is listed with the following regulatory agencies:

REACH registered substances
European Inventory of Existing Commercial Chemical Substances
US TSCA Inventory
Australian Inventory of Chemical Substances
Canada Domestic Substances List
China Inventory of Existing Chemical Substances
Korea Existing Chemicals Inventory
Philippine Inventory of Chemicals and Chemical Substances
New Zealand Inventory of Chemicals

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Regulatory Information / Classification and Labeling

Under the Globally Harmonized System for classification and labeling (GHS), substances are classified according to their physical, health, and environmental hazards. The hazards are communicated via specific labels and the (Extended) SDS. GHS attempts to standardize hazard communication so that the intended audience (workers, consumers, transport workers, and emergency responders) can better understand the hazards associated with chemicals in use.

GHS Classification:

Flammable Liquid, Category 3
Acute Toxicity, Category 4
Skin Irritation, Category 2
Aspiration Toxicity, Category 1
Carcinogen, Category 2
STOT Re Exp 2
Aquatic Chronic Toxicity, Category 2

Hazard Statements:

H226: Flammable liquid and vapour
H332: Harmful if inhaled
H315: Causes skin irritation.
H304: May be fatal if swallowed and enters airways
H351: Suspected of causing cancer
H373: May cause damage to thymus, liver, and bone marrow through prolonged or repeated inhalation exposure
H411: Toxic to aquatic life with long lasting effects

Signal Word: Danger

Precautionary Statements:

P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
P260: Do not breathe dust/fume/gas/mist/vapours/spray
P273: Avoid release to the environment
P280: Wear protective gloves/protective clothing/ eye protection/ face protection
P301+310: IF SWALLOWED: Immediately call a POISON CENTER/ doctor
P331: Do NOT induce vomiting

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Hazard Pictograms:



Conclusion

Diesel Fuel #2 is a useful chemical in the processing of other chemicals such as surface-active agents, adhesives, rubber products, industrial coatings, and lubricants. When handled responsibly, the potential for irritation and systemic toxicity can be minimized, allowing workers to use materials containing Diesel Fuel #2 safely.

Contact Information

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Additional Information

For more information on Product Stewardship at INEOS Composites, visit our website's Safety, Health and Environment (SHE) page: www.ineos.com/composites-she

For more information on GHS, visit <http://www.osha.gov/dsg/hazcom/ghsguideoct05.pdf> or http://live.unece.org/trans/danger/publi/ghs/ghs_welcome_e.html.

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REACH registration is specific to Importers/Manufacturers that place the chemical on the EU market and is specific to registered uses. Inclusion on the list of REACH Registered Substances does not automatically imply registration by INEOS Composites.

Inclusion on the New Zealand Inventory of Chemicals applies only to the pure substance listed. The importer of record must determine whether their substances comply.