Chemical Safety Practices Recommendations
Nintedanib (OFEV, BIBF 1120)

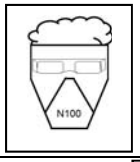
Exposure Hazards(1) (2)

Suspected of Damaging Fertility or the Unborn Child

May Cause Damage to Hepatic, Circulatory, and Digestive Systems through Prolonged or Repeated Exposure

Response to Exposure

Oral	Dermal	Inhalation	Injection
Rinse mouth; do not induce vomiting. Report to OHS.	Wash skin with soap and water for 15 minutes. Rinse eyes for 15 minutes. Report to OHS.	Leave area; go to clean air. Report to OHS.	Report to OHS.

Special Precautions	Pregnant women should be extra cautious when working with or around Nintedanib.(2, 3) Discard garments as hazardous if contaminated with Nintedanib.
Personal Protective Equipment	Gloves (double) (Latex or Nitrile) Skin Protection (Suit or Scrubs or Lab Coat) Eye Protection (Safety-glasses or Goggles) Closed-toe shoes Use N100 respirator if engineering controls are not available. 
Engineering Controls	Nintedanib powder- Chemical Fume Hood (CFH) (4) Nintedanib solution- CFH or Biosafety Cabinet (Class II, B2 BSC if aerosolized) Animal waste and bedding until one day after last treatment- CFH or Class II, B2 BSC 
Animal Handling	Avoid exposure to animal waste/tissue until one day after last treatment. (5, 6)
Bedding Disposal	Dispose of bedding as hazardous material until one day after last treatment.
Work Practices	Empty Nintedanib containers and unused Nintedanib must be disposed of as hazardous. Follow LASP SOP 4.003F for preparation, handling, dosing, and disposal of Nintedanib.

References:

1. OFEV [Drug Label] [Internet]. Boehringer Ingelheim Pharmaceuticals, Inc. 2014. Available from: http://www.accessdata.fda.gov/drugsatfda_docs/label/2014/205832s000lbl.pdf.
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3. NIOSH. NIOSH list of antineoplastic and other hazardous drugs in healthcare settings 2014. Cincinnati, OH: National Institute for Occupational Safety and Health, DHHS (NIOSH), U.S. Department of Health and Human Services CfDCaP; 2014 September 2014. Report No.: 2014-138 Contract No.: 2014-138.
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5. Stopfer P, Rathgen K, Bischoff D, Ludtke S, Marzin K, Kaiser R, et al. Pharmacokinetics and metabolism of BIBF 1120 after oral dosing to healthy male volunteers. Xenobiotica; the fate of foreign compounds in biological systems. 2011;41(4):297-311.
6. Hilberg F, Roth GJ, Krssak M, Kautschitsch S, Sommergruber W, Tontsch-Grunt U, et al. BIBF 1120: triple angiokinase inhibitor with sustained receptor blockade and good antitumor efficacy. Cancer research. 2008;68(12):4774-82.

Questions or concerns: Please contact EHS, Ted Witte, theodore.witte@nih.gov or 301-846-5860

Reviewed 4/23/2015 *These recommendations are not final and may be updated.*

Chemical Safety Practices Recommendations
Nintedanib (OFEV, BIBF 1120)

Nintetanib is a Tyrosine Kinase Inhibitor used to prevent angiogenesis and tumor growth through the inhibition of the receptors VEGFR 1/2/3, FGFR 1/2/3, and PDGFR α/B. Only recently approved by the FDA for the treatment of Idiopathic Pulmonary Fibrosis in late 2014, it is not listed in "NIOSH list of antineoplastic and other hazardous drugs in healthcare settings 2014" but should be presumed to be a reproductive hazard, a conclusion shared by the FDA in its summary review. It is similar in nature and function to other TKIs such as Regorafenib, Dasatinib, Sorafenib, et ceterae. Therefore the toxicity is largely specific to rapidly developing tissues such as the developing fetus.

Nintetanib is very rapidly metabolized to an inactive metabolite by methyl esterase activity in both humans and mice, with the bulk of excretion of active drug occuring in the feces. Plasma drug levels in mice approach zero within 16-20 hours.

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