



RepDose·ChemTunes Database

Navigating Chemical Safety



Fraunhofer ITEM and Molecular Networks Altamira (MN-AM) jointly integrate the RepDose Database (repdose.item.fraunhofer.de) developed, maintained and owned by Fraunhofer into the ChemTunes platform from MN-AM to further support the safety and risk assessment of chemicals. This collaboration offers the comprehensive content of RepDose within ChemTunes·ToxGPS®. The RepDose Database has a high profile known for its data quality compatible to the standard of ChemTunes.

Example of rat inhalation study displaying design parameters, numeric endpoint values and dose-level effects in RepDose-ChemTunes Database

Species	Strain	Sex	Route of Administration	Test Duration	Dose Levels / Range	Comments	Details
rat	Wistar	male	Inhalation	28 day	0.0, 0.38, 0.88, 2.76, 10.07 MGMP		>>
rat	Wistar	female	Inhalation	28 day	0.0, 0.38, 0.88, 2.76, 10.07 MGMP		>>

Dose	Generation	Finding Category	Assay	Site	Effect	Description	Time of Finding	Incident Date	Treatment Method	Statistical Significance	Comments
2.76 MGMP		Pathology	LUNG		HYPERPLASIA						goblet cells in the tubular area
10.07 MGMP		Body Weight			BODY WEIGHT CHANGES						
		Clinical Signs			CHANGES						
		Clinical Signs			CONGESTION + HYPOHYPERA						decreased
		Clinical Signs			MORTALITY	INCREASED					7/10 m and 5/10 f died after 4-15 days
		Hematology	BLOOD		RBC +	INCREASED					increased
		Hematology	BLOOD		RBC + HEMATOCHROM	INCREASED					
		Hematology	BLOOD		RBC PARAMETERS	CHANGED					
		Hematology	BLOOD		RBC +	INCREASED					reticulocytes increased
		Hematology	BLOOD		RETICULOCYTES	INCREASED					
		Organ Weight	LIVER		ORGAN WEIGHT CHANGES	DECREASED					
		Organ Weight	LUNG		ORGAN WEIGHT CHANGES	INCREASED					
		Organ Weight	SPLEEN		ORGAN WEIGHT CHANGES	DECREASED					

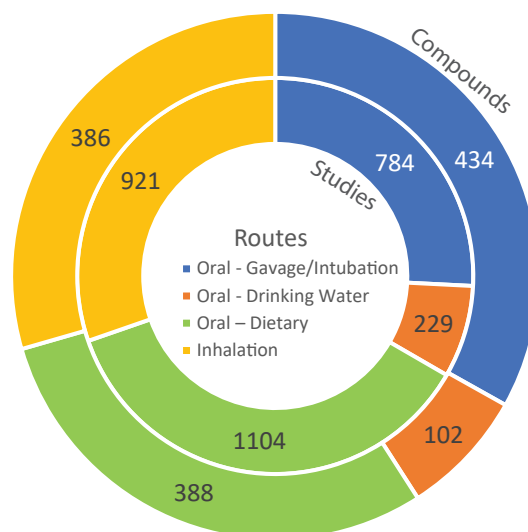
RepDose Database

- Constructed by Fraunhofer ITEM
 - Initiated from CEFIC LRI to house highly selective, reliable NOEL or LOEL values with accompanying effects from repeated dose toxicity studies [Bitsch A. et al., Reg. Toxicol. Pharmacol. 2006, 46(3), 202-210]
- Provides study reliability measures
- Data sources include German MAK-documentations, EHC, EU RAR, reports from German BG Chemie, HPV-chemicals, and NTP reports

Database Statistics

- Over 3,000 studies for more than 970 compounds
- Updated annually

		Compounds	Studies	NOEL / LOEL
Study Types	Short Term	591	972	439 / 903
	Sub-Chronic	633	1107	543 / 1010
	Chronic	438	960	263 / 874
Species	Rat	946	2200	956 / 2055
	Mouse	405	771	289 / 732
	Dog	35	67	67 / 67



- Oral:** 911 NOELs & 1,938 LOELs
- Inhalation:** 334 NOELs & 849 LOELs



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