Occupational Exposure to Evrysdi

This article responds to your request for information on Evrysdi® (risdiplam) and occupational exposure.

In brief

- Based on the findings from air monitoring studies, it is highly unlikely that an individual will be exposed to Evrysdi in excess of the occupational exposure limit for risdiplam when preparing the oral solution.

Handling Recommendations

Healthcare professionals should exercise caution when handling Evrysdi powder for oral solution.[1]

Avoid inhalation and avoid direct contact with skin or mucous membranes (e.g. nostrils and mouth) with the dry powder and the constituted solution.[1]

Wear disposable gloves during the preparation and clean-up procedure. If contact occurs, wash thoroughly with soap and water; rinse eyes with water.[1]

Occupational exposure limits

The occupational exposure limit (OEL) is the maximum concentration of a substance in the air that a worker can be exposed to in an 8-hour workday for a 40-year working lifetime without experiencing an adverse event.[2]

Roche OEL for Evrysdi

The Roche OEL for Evrysdi is 2 µg/m^3 as an 8-hour time weighted average.

Evrysdi air monitoring study overview

Roche conducted air monitoring studies to determine a healthcare professional's potential exposure to risdiplam during the preparation of Evsrydi oral solution without using a fume hood or other type of ventilated enclosure.[3] One set of control samples was collected during typical constitutions while another set of samples was collected during two incident scenarios:

- Dropping an open bottle from a height of 10 cm, and
- Tipping an open bottle over onto the table.

The results were compared with the Roche OEL for Evrysdi.

Air monitoring strategy

To obtain a statistically representative estimate of exposure during typical constitutions without incident, personal samples were collected during six constitutions of 15 minutes each.[3] The constitution steps followed during the air monitoring study mirror the instructions for constitution for pharmacists in a real world setting. For the scenarios where incidents occurred, the maximum personal monitoring results were collected when the bottle was dropped from a height of 10 cm. The 15 minute exposure results for a single constituton for both the control and dropping scenarios were then extrapolated to 8 hours.

Evrysdi air monitoring study results

The results are shown in Table 1.[3]

Table 1. Personal monitoring results

	Constitutions without incident	Dropping bottle from height of 10cm
15-minute exposure results		
Geometric mean	0.066 µg/m^3	0.231 µg/m^3
95th percentile	0.455 µg/m^3	1.59 µg/m^3
8-hour exposure results		
Geometric mean	0.002 µg/m^3	0.007 µg/m^3
95th percentile	0.015 µg/m^3	0.05 µg/m^3
Note: Experience has shown that multiple exposure measurements collected from either a single individual or from multiple individuals within an exposure group are log-normally distributed. Therefore, when averaging a lognormal distribution, the geometric mean is relevant rather than the typically used arithmetic mean. Also relevant for this study is the 95th percentile i.e., the concentration under which 95% of all concentrations will fall.		

Occupational exposure when constituting Evrysdi without incident

For an individual performing a single constitution per day, the 8-hour level was well below the OEL for risdiplam of 2 µg/m^3. It would require the same person to make 140 constitutions in one day before the 95th percentile concentration exceeds the OEL.[3]

Occupational exposure when dropping bottle from a height of 10 cm

For an individual experiencing a single incident of dropping an Evrysdi bottle per day, 8-hour exposure was well below the OEL for risdiplam of 2 µg/m^3. It would take forty such incidents per day before the 95th percentile concentration exceeds the OEL.[3]

References

1. Roche Internal Regulatory Report (Accessed on 8 August 2023).
2. Occupational exposure limits. Available at https://echa.europa.eu/oel. Accessed on July 12, 2023.
3. Roche Internal Technical Report (Accessed on 8 August 2023).