# Job Safety Analysis

Safety information for V-Ray

**Safety first**

| Task | Hazard(s) ⚠ | Control ✅ |
|---|---|---|
| **Loading the V-Ray onto the transportation cart** | • Back/ muscle strain and injury.<br>• Hand/ finger injury<br>• Foot injury when the V-Ray accidentally lands on your foot | • Slightly bend your body forward when loading or unloading the V-Ray to prevent back injury.<br>• Wear gloves and make sure your grip is safe and strong before lifting the V-Ray<br>• Wear safety shoes, get assistance if available |
| **Pre-launch** | • Falls / slips<br>• Low visibility environment | • Keep an eye on the tether, wear non-slip shoes<br>• Reflective floatation vest |
| **Laser for V-Ray** | • Eye Damage | • Wear laser safety glasses and cover the laser above the water |
| **Pneumatic System** | • Re-filling tank<br><br>• Maximum pressure allowable for tank<br><br>• Maximum pressure allowable under water | • Wear safety glasses and put the tank in casing , fixed on board<br>• Use pressure relive valve set at 10 bar the max. allowable pressure for tank<br><br>• Use regulator adjust at (2.75 bar) |
| **Electrical** | • Mild electrical shock or electrocution | • Make sure the power supply is placed on dry location<br>• Visually inspect of the cables and connectors, Check that each connector has been tightened and waterproofed<br>• Make sure hands are dry when in contact with power supply<br>• Put fuses in housing to ensure that it is dry all the time and to cut-off the power if there is short-circuit |
|  | • Hand injury or cut from thrusters | • Put warning sticker on the thruster<br>• Ensure the thruster control is off when in contact with V-Ray |
|  | • Injury from tripping on the tether | • Lay the tether away without blocking the way<br>• Ensure the tether is not tangled at all times<br>• Use tether management system to make it easy suppling the V-Ray with tether under water<br>• Put power and signal cables inside one shield to protect them from cutting |
| **Launch V-Ray** | • Falling into water<br>• Tether on deck trip hazard | • Never launch alone. Ensure all personnel can swim or wear a life jacket. In some conditions, all personnel must wear life jackets<br>• Keep all tether slack neatly on tether management system |

Other Information : See V- Ray Technical Documentation for more information on Safety

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