PURPOSE
The Emergency Shower and Eyewash Standard has been developed to provide the minimum requirements for installation, training, use and maintenance of emergency shower and eyewash equipment in compliance with Part 4 of the Alberta Occupational Health and Safety Code. All work areas where a worker may be exposed to materials harmful to mucous membranes, skin or body must have immediate access to equipment appropriate for the potential level of exposure and workers must be trained in use of the equipment.

SCOPE
The Emergency Shower and Eyewash Standard applies to all persons whose work requires emergency equipment including eyewashes, eye/face washes, emergency showers, combination showers and eyewash stations, personal wash units and drench hoses under the auspices of the University of Calgary.

DEFINITIONS
Emergency Shower is defined as a device specifically designed and intended to deliver flushing fluid in sufficient volume to cause that fluid to cascade over the entire body (ANSI Z358.1).

Eyewash is defined as a device to provide fluid to irrigate and flush the eyes (ANSI Z358.1).

RESPONSIBILITIES
Supervisors and Managers
• Must know, understand and comply with the applicable components of this standard to facilitate the protection of the health and safety of workers.
• Ensure that a hazard assessment is performed in their area to identify emergency shower and eyewash requirements and apply the hierarchy of controls i.e. engineering controls (e.g. fume hoods and biosafety cabinets), administrative controls or personal protective equipment (e.g. safety glasses, goggles, and face shields).
• Ensure that workers are aware of the location of, and are trained in the proper use of emergency showers and eyewashes and document such training.
• Ensure the unobstructed access to emergency showers and eyewashes is maintained, and that equipment is maintained as per this document (see below).

Workers
• Must know, understand and comply with the applicable components of this standard as well as any additional requirements set by their supervisor/manager.
• Ensure the unobstructed access to emergency showers and eyewashes is maintained, and that equipment is maintained as per this document (see below).

Facilities
• Apply the University Design Standards for the selection, installation and commissioning of emergency showers and eyewashes.
• Conduct annual performance testing as per the ANSI Standard Z358.1 and retain records.
• Repair emergency showers and eyewashes and retain records.
• In conjunction with EHS, investigate operational deficiencies and make recommendations regarding emergency shower and eyewash equipment.

Environmental Health and Safety
• Provides information on appropriate legislation, codes, standards and best practices for the selection and installation of emergency showers and eyewashes.
• Assists users in obtaining repairs or service when service requests are not completed within a reasonable period.
• Development and maintenance of this document.

REQUIREMENTS
Hazard Assessment
The need for emergency equipment in a work area is determined by the supervisor/manager when completing a Hazard Assessment and Control Form (Refer to the Hazard Assessment and Control Procedure). In certain circumstances, the need for emergency equipment may not be required when hazardous materials are stored and used in limited quantities.

Highly hazardous materials (e.g. concentrated perchloric acid, hydrofluoric acid and alkali metals) are not exempt from the requirements for emergency shower and eyewashes even when used in limited quantities.

Work areas that may need emergency equipment include laboratories, workshops and areas where hazardous material may be present. The types of hazardous materials include, but are not limited to:
• Solutions with a pH less than 2.0 or greater than 12.5.
• Other materials corrosive or irritating to skin (e.g. formaldehyde, methylene chloride, phenol).
• Corrosive chemicals in a closed system where a failure can cause chemicals to release (e.g. battery charging areas, descaling systems or pressurized equipment) into the work area.
• Chemical, biological or radiological materials, including wastes.
• Physical hazards (e.g. heat, fumes, chips and dust).
• Personal eyewash units (i.e. refillable or sealed units) are not a substitute for a proper eyewash but may be used for an immediate response when a proper eyewash is located in the room.
• When chemicals are used in small quantities and the potential for exposure is limited, the need for an emergency shower may be waived. A drench hose is not an acceptable substitute for an eyewash.

Equipment
All installations of emergency showers and eyewashes must comply with the specifications of the current version of ANSI Z358.1
The emergency equipment must be able to provide fifteen (15) minutes of uninterrupted flow and be operable hands free.

The emergency equipment must be installed within ten (10) seconds / fifty-five (55) feet of an identified hazard, on the same level as the hazard and with unobstructed travel path.

The emergency equipment must be connected to a tempered water mixing valve.

**Training**

Site-specific training is to be provided by the supervisor/manager and documented on the worker’s training record. Training must include:

- Location of emergency equipment.
- Instructions regarding activation of emergency equipment.
- Demonstration regarding activation of emergency equipment (eyewash station only, where practicable), that does not create additional hazards by such activation (e.g. demonstrate use of eyewash where water is contained and drained).
- Instruction that eyelid(s) are to be held open with the hands while the eyes and face are still in the flow of water.
- Perform eye irrigation by introducing water at the inner corner of the eye – adjacent to the nose – and letting it run across the eye to the outer edge.

**USAGE**

In the event of an exposure, the affected area(s) should be flushed a minimum of fifteen (15) minutes. Seek medical assistance immediately after using emergency equipment and a complete an OARS report. Where installed, drench hoses are only used for flushing head and/or body parts and should not be used for eyes due to potentially higher water pressure.

**MAINTENANCE**

**Weekly Maintenance**

Supervisors/Managers must ensure weekly activation of eyewashes to verify operation and ensure lines are flushed to minimize build-up of sediment and potential contaminants. Eyewashes are to be activated for at least one (1) minute. Record the activation of the eyewash equipment on the site-specific records to verify compliance (see Appendix).

**Annual Maintenance**

Facilities are responsible for annual performance testing of emergency showers and eyewashes. Central records are kept to verify compliance. A tag indicating testing is to be affixed to the equipment.

**REFERENCES**

Alberta Occupational Health and Safety Code
Canadian Biosafety Standard published by Public Health Agency of Canada
ANSI Z358.1 American National Standard for Emergency Shower and Eyewash Equipment
NFPA 45 Standard on Fire Protection for Laboratories Using Chemicals
University of Calgary Design Standards

**APPENDIX**

Weekly Activation and Flushing of Eyewash Record
# Weekly Activation and Flushing of Eyewash Record

**Instructions:**
- Activate eyewash weekly for at least one (1) minute to verify operation and flush any sediment and potential contaminants.
- **Do not activate emergency shower unless it is an emergency.**
- If a deficiency is observed make a notation on the record and submit an ARCHIBUS work request for repairs.
- Use one record for each piece of equipment and year. For periods over one week of no work activity, flushing is to occur prior to work re-commencing.

**Building:** ______________  **Room Number:** ______________  **Equipment Barcode:** _________________________  **Year:** __________

<table>
<thead>
<tr>
<th>Week</th>
<th>Date (MM/DD)</th>
<th>Initials</th>
<th>Corrective Actions</th>
<th>Week</th>
<th>Date (MM/DD)</th>
<th>Initials</th>
<th>Corrective Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>27</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td>28</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td>29</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td>30</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td>31</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td>32</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td>33</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td>34</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
<td></td>
<td></td>
<td>35</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td>36</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td></td>
<td></td>
<td></td>
<td>37</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td></td>
<td></td>
<td></td>
<td>38</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td></td>
<td></td>
<td></td>
<td>39</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td></td>
<td></td>
<td></td>
<td>40</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td></td>
<td></td>
<td></td>
<td>41</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td></td>
<td></td>
<td></td>
<td>42</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td></td>
<td></td>
<td></td>
<td>43</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td></td>
<td></td>
<td></td>
<td>44</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19</td>
<td></td>
<td></td>
<td></td>
<td>45</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td></td>
<td></td>
<td></td>
<td>46</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21</td>
<td></td>
<td></td>
<td></td>
<td>47</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22</td>
<td></td>
<td></td>
<td></td>
<td>48</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23</td>
<td></td>
<td></td>
<td></td>
<td>49</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24</td>
<td></td>
<td></td>
<td></td>
<td>50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td></td>
<td></td>
<td></td>
<td>51</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26</td>
<td></td>
<td></td>
<td></td>
<td>52</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>