



Marshall Space Flight Center Hazard Warning Signs & Barricades

Presented By:

MSFC Industrial Safety Department

August, 2003

Reference: MWI 8715.3, "Hazard Warning Signs and Barricades"

Hazard Warnings At MSFC



- **Tell of a condition in area that could produce injury**
 - Condition may be temporary, permanent, or recurring
- **Rely on YOU to notice and react appropriately**
 - Choose to be safe!
- **Several types are used:**
 - Signs
 - Tags
 - Barriers
 - Barricades
 - Auditory Signals (sirens, bells, alarm tones, EWS messages)
 - Visual Signals (lights, color-coded and/or flashers)
 - Written & Printed Media
- **Colors used carry a message, too**

DANGER

Warnings

- **Tell you:**

- There is immediate danger
- Special precautions are necessary
- A major hazard presents a threat of death or serious injury to you and others



DANGER DO NOT ENTER DANGER DO NOT ENTER

- **You should:**

- Not enter or approach the marked area, unless specifically trained and authorized to do so
- Evacuate the area or follow standard emergency procedures
- Follow instructions given on sign, tag, or announcement



- **Colors & sounds:**

- **Signs & Tags:** red & black on white background
- **Lights:** red, steady on or flashing
- **Alarms:** all sirens, bells, and alarm tones



Specific Danger Warnings



- **Biological Hazard Symbol**
 - A biohazard is actually or potentially present
 - Biohazard = infectious material presenting an actual or potential risk to the well-being of man
 - Marks possibly contaminated items and locations
 - *Avoid contact!*

- **Hazardous Energy (Lockout/Tagout) Tags**
 - Someone is currently working on the machine or system
 - If any power source is turned on, that person will be seriously injured or killed
 - Includes all sources of energy: electrical, chemical, pneumatic, hydraulic, mechanical, thermal, and others
 - *Do not disturb machine, system, or controls!*



Specific Danger Warnings



- **Laser Hazard Symbols**

- Lasers are or may be operating in the area
- There is a risk of serious eye and/or skin injury
- Symbol will be placed on 'Danger' or 'Caution' signs and decals, depending on type of laser
- *Use protective equipment and procedures stated on signs and decals!*



- **Radiation Hazard Symbol**

- Sources of radiation are or may be in the area
- There is a risk of serious health effects from overexposure to radiation
- Symbol (black or magenta) is used on signs & tags
- Usually seen with 'Caution' warnings
- Marks items & locations with radiation hazards
- *Avoid exposure unless specially trained and using proper protective equipment!*



WARNING

Signs and Tags

- **Tell you:**

- There is a hazardous condition
- Special precautions are necessary
- There is some probability of death or serious injury



- **You should:**

- Not enter or approach the marked area, unless specifically trained and authorized to do so
- Follow all standard safe work procedures and hazard controls
- Follow instructions given on sign, tag, or announcement

- **Colors:**

- Orange & black



CAUTION

Warnings

- **Tell you:**

- There is a potential hazard or an unsafe practice
- Proper precautions need to be taken
- There is a threat of injury to you and others -- injury may be serious, but not irreversible
- The threat may arise with little or no additional warning



- **You should:**

- Stay alert for the hazardous condition or unsafe act to occur
- Know what to do when and if it happens, and do it
- Follow instructions given on sign, tag, or announcement



- **Colors:**

- Signs & Tags: yellow & black
- Lights: yellow, steady on or flashing



Safety Instructions

- **Tell you:**
 - General instructions about safe work practices
 - Reminders of proper safety procedures
 - Identify location of safety equipment
- **You should:**
 - Follow the instructions given
 - Comply, whether those around you do or not
 - Not let the habit of always seeing the sign make it 'invisible'
 - Remember the reason for posting the sign
- **Colors:**
 - Green & black on a white background

SAFETY FIRST

**EMERGENCY
EYEWASH**

SAFETY FIRST

**EYE PROTECTION
REQUIRED
BEYOND THIS
POINT**

Barricades and Barriers

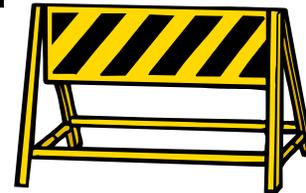
- **Tell you:**

- An immediate hazard exists on the other side
- There is a risk of serious injury or mishap
- Access is restricted to personnel directly assigned to perform work tasks related to the hazardous condition
- Only properly trained, qualified, and equipped personnel may be assigned to work within the restricted access area



- **You should:**

- Never cross a barricade or barrier
- Stay out, unless officially authorized to enter restricted area
- Remember that some hazards can't be seen



- **Many types:**

- Plastic barricade tape, ropes, chains, barrier gate arms, safety cones, construction fencing, traffic barricades, temporary walls & enclosures, etc.



Notices

- **Tell you:**
 - Workplace policies or requirements
 - Give useful information
 - May relate to safety & health only indirectly

- **You should:**
 - Read, understand & obey

- **Colors:**
 - Blue & black on a white background



NOTICE

**AUTHORIZED
PERSONNEL
ONLY**

NOTICE

**FIRE DOOR
KEEP CLOSED**

- Recent safety violation at Building 4610 involved personnel crossing barricade & entering hazard zone of a crane operation
- Safety violations can lead to disciplinary action, per:
 - NASA "Table of Disciplinary Offenses and Penalties", and
 - NASA "Desk Guide For Table of Disciplinary Offenses and Penalties"
 - See the 'NASA Disciplinary Program' on the SHE Website, under the menu button for Policies, Documentation and Procedures: <http://inside.msfc.nasa.gov/SHE/disciplinary.html>
- **Example: Violation of safety regulation or prescribed safe work practice**
 - 1st offense = written reprimand; 2nd offense = 3-day suspension to removal; 3rd offense = 7-day suspension to removal