



SHAPE SAFETY BULLETIN #10

(Safety & Health In Arts Production & Entertainment)

ARTIFICIALLY CREATED SMOKES, FOGS AND LIGHTING EFFECTS

THE FOLLOWING SUBSTANCES SHOULD NOT BE USED:

- a. Known human carcinogens including any particulates of combustion, including tobacco smoke;
- b. Fumed and hydrolyzed chlorides;
- c. Ethylene glycol and Diethylene glycol;
- d. Mineral oils;
- e. Aliphatic and aromatic hydrocarbons including petroleum distillates;
- f. Hexachloroethane and Cyclohexylamine;

THE FOLLOWING SUBSTANCES MAY BE USED:

- a. Propylene glycol, Butylene glycol, Polyethylene glycol and Triethylene glycol. Other glycol products should **not** be used (see c above);
 - b. Glycerin products [**Caution:** Glycerin and the listed glycol products should not be heated beyond the minimum temperature necessary to aerosolize the fluid. In no event should glycerin or glycol be heated above their decomposition temperature 290 C (554 F)];
 - c. Cryogenic gases (*e.g.*, carbon dioxide, liquid nitrogen) may be used but care must be exercised to avoid depleting oxygen levels, especially enclosed areas. Use care also to avoid adverse effects of cooled air on exposed persons.
1. **NOTE:** Material Safety Data Sheets (MSDS) are to be consulted prior to acquisition and use of these products.
 2. When creating smoke or fog effects on any set, Producer(s) will utilize the minimum concentration necessary to achieve the desired effect.
 3. When smoke or fog effects are created on an interior set, the stage shall be periodically ventilated or exhausted, vertically and laterally, or all personnel and animals shall be given a break away from the stage at appropriate intervals.
 4. When creating smoke or fog effects on interior sets, Producer(s) shall make available on request respirators of the appropriate type (consult MSDS). Respiratory protection must be properly fit-tested and used according to manufacturers instructions. For more information on the use, care, and maintenance of respirators, please refer to *Breathe Safer*: http://www.worksafebc.com/publications/health_and_safety/by_topic/assets/pdf/breathe_safer.pdf

Safety Bulletins Are Recommended Guidelines Only; Consult All Applicable Rules and Regulations



GUIDELINES REGARDING THE USE OF ARTIFICIALLY CREATED SMOKES, FOGS AND LIGHTING EFFECTS

5. When smoke or fog effects are utilized on any interior set, all non-essential personnel shall be excluded from the set. Whenever possible, personnel shall be vacated from all dressing rooms located on the stage. School rooms located on the stage shall be vacated.
6. When utilizing smoke on an interior set on location, Producer(s) shall provide means to safely exhaust or ventilate the set.
7. When creating smoke or fog effects on an exterior location, Producer(s) shall exercise all reasonable precautions to prevent smoke and fog inhalation and Producer(s) shall make available on request respirators of the appropriate type.
8. When smoke or fog effects are scheduled to be created on any set, prior notification as to use and type shall be given to all personnel and whenever possible, the call sheet shall state that smoke or fog effects are to be used. The person responsible for providing respirators shall be designated.
9. When using smoke and fog at a location involving the public, such as a park, a permit must be obtained from the authority having jurisdiction.

