GUIDE LITHIUM ION BATTERIES

POTENTIAL HAZARDS

FIRE OR EXPLOSION

- Lithium ion batteries contain flammable liquid electrolyte that may vent, ignite and produce sparks when subjected to high temperatures (> 150°C (302°F)), when damaged or abused (e.g., mechanical damage or electrical overcharging).
- May burn rapidly with flare-burning effect.
- · May ignite other batteries in close proximity.

HEALTH

- Contact with battery electrolyte may be irritating to skin, eyes and mucous membranes.
- Fire will produce irritating, corrosive and/or toxic gases.
- Burning batteries may produce toxic hydrogen fluoride gas (see GUIDE 125).
- · Fumes may cause dizziness or asphyxiation.

PUBLIC SAFETY

- CALL 911. Then call emergency response telephone number on shipping paper. If shipping paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.
- Keep unauthorized personnel away.
- · Stay upwind, uphill and/or upstream.
- Ventilate closed spaces before entering, but only if properly trained and equipped.

PROTECTIVE CLOTHING

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Structural firefighters' protective clothing provides thermal protection but only limited chemical protection.

EVACUATION

Immediate precautionary measure

Isolate spill or leak area for at least 25 meters (75 feet) in all directions.

Large Spill

Consider initial downwind evacuation for at least 100 meters (330 feet).

Fire

If rail car or trailer is involved in a fire, ISOLATE for 500 meters (1/3 mile) in all directions; also initiate
evacuation including emergency responders for 500 meters (1/3 mile) in all directions.

LITHIUM ION BATTERIES GUIDE 147

EMERGENCY RESPONSE

FIRE

Small Fire

Dry chemical, CO₂, water spray or regular foam.

Large Fire

- · Water spray, fog or regular foam.
- · If it can be done safely, move undamaged containers away from the area around the fire.

SPILL OR LEAK

- ELIMINATE all ignition sources (no smoking, flares, sparks or flames) from immediate area.
- Do not touch or walk through spilled material.
- Absorb with earth, sand or other non-combustible material.
- Leaking batteries and contaminated absorbent material should be placed in metal containers.

FIRST AID

- Call 911 or emergency medical service.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.
- Move victim to fresh air if it can be done safely.
- · Give artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- · Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.

Page 230 ERG 2020 ERG 2020 Page 231