

Smoke and Carbon Monoxide Detectors and Alarms

Many businesses have smoke detectors (also called smoke alarms) and carbon monoxide detectors installed in their facilities. The average lifespan of a smoke or carbon monoxide detector is from seven to ten years, at which time the old detectors should be discarded and replaced. The Minnesota Pollution Control Agency (MPCA) and the metropolitan counties of Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington (Metro Counties) regulate the accumulation and disposal of discarded smoke and carbon monoxide detectors.

Why are detectors discarded by businesses regulated?

All smoke and carbon monoxide detectors contain circuit boards that are often manufactured with toxic heavy metals, including lead, cadmium, and silver. Products containing circuit boards are normally considered regulated hazardous electronic wastes, or E-wastes, when discarded in Minnesota.

Smoke detectors come in two types: ionization and photoelectric. Photoelectric detectors use a beam of light to look for visible smoke, while ionization detectors use charged particles to identify smoke molecules. In addition to a circuit board, ionization detectors contain radioactive source material, usually americium. Ionization detectors may be identified by the words 'ionization', 'radioactive material', or the radioactivity trefoil symbol: 

The radioactive source inside ionization smoke detectors is sealed and does not present a health or safety risk during normal use. For your safety, do not attempt to remove the sealed source when you discard an ionization smoke detector. For questions on how to manage inadvertently removed or damaged radioactive sources, or for radioactive materials other than americium, contact the Minnesota Department of Health.

See [More information](#) on page 2.

Note: Photoelectric and ionization smoke detectors are each more effective at sensing different types of fires. The MPCA does not recommend installation of one type of detector over another based on disposal considerations. The National Fire Prevention Association (NFPA) recommends use of both types of smoke detector for the best fire safety. For questions about smoke detector selection and placement, contact your local fire service or the State Fire Marshal. See [More information](#) on page 2.

How must detectors from businesses be disposed?

Businesses and government agencies in Minnesota may dispose of all types of discarded smoke or carbon monoxide detectors by:

- Recycling as E-wastes at a recycler that can safely handle the detectors. Unfortunately, few recyclers that can safely process ionization detectors currently exist. Detectors legitimately managed by recycling are eligible for all allowances discussed in MPCA fact sheet #w-hw4-15, Managing Electronic Wastes, at: <https://www.pca.state.mn.us/sites/default/files/w-hw4-15.pdf>.
- Return to a manufacturer for processing and disposal. Though a common misconception, manufacturers are not required to accept detectors back for disposal, and many do not, though some voluntarily do.
- Disposal in a permitted municipal solid waste (MSW) or Industrial Solid Waste (ISW) landfill. Detectors may not be disposed in demolition landfills. Though disposal is allowed by the MPCA, landfill operators may still choose to reject detectors from their facilities.

Business and government agencies must ensure their discarded detectors are not incinerated for disposal.

Keep records to show how you have managed your smoke detectors for at least three years after disposal. See MPCA fact sheet #w-hw1-10, Keep Records, at <https://www.pca.state.mn.us/sites/default/files/w-hw1-10.pdf>.

How must detectors from businesses be stored before disposal?

Store detectors you will discard similar to other E-wastes: intact, protected from precipitation, and in boxes or other containers labeled with the identity of the contents and the words 'Waste' or 'For Recycling'. For more information on E-waste management, see MPCA fact sheet #w-hw4-15, Managing Electronic Wastes, at: <https://www.pca.state.mn.us/sites/default/files/w-hw4-15.pdf>.

What about detectors from households?

Households are encouraged but not required to dispose their smoke and carbon monoxide detectors in the [same way as businesses](#) as discussed on page 1. However, households may discard their detectors into their normal solid waste regardless of whether that waste is incinerated or landfilled. Households may also contact their county household hazardous waste (HHW) program to find out if the program accepts some detectors for recycling. Most HHW programs do not accept detectors, though some do. Households should not place detectors into their municipal recycling container.

More information

Guidance and requirements in this fact sheet were compiled from Minnesota Rules chapter 7035 & 7045, and incorporate regulatory interpretation decisions made by the MPCA on December 20, 2016, and September 13, 2017. Visit the Office of the Revisor of Statutes at <https://www.revisor.mn.gov/pubs> to review Minnesota Rules.

Contact your Metropolitan County or the MPCA with your questions. The MPCA's Small Business Environmental Assistance Program can also provide free, confidential regulatory compliance assistance. Immediately report all hazardous waste spills and incidents to the Minnesota Duty Officer.

Metro County Hazardous Waste Offices

Anoka	763-324-4260
.....	https://www.anokacounty.us/
Carver	952-361-1800
.....	http://www.co.carver.mn.us/
Dakota	952-891-7557
.....	https://www.co.dakota.mn.us/
Hennepin	612-348-3777
.....	http://www.hennepin.us/
Ramsey	651-266-1199
.....	https://www.ramseycounty.us/
Scott	952-496-8177
.....	http://www.scottcountymn.gov/
Washington	651-430-6655
.....	https://www.co.washington.mn.us/

Minnesota State Fire Marshal

Statewide	651-201-7200
.....	https://dps.mn.gov/divisions/sfm/

Minnesota Pollution Control Agency

Toll free (all offices)	1-800-657-3864
All offices	651-296-6300
.....	https://www.pca.state.mn.us/

Minnesota Duty Officer

Toll free	1-800-422-0798
Metro	651-649-5451

Small Business Environmental Assistance Program

Toll free	1-800-657-3938
Metro	651-282-6143
.....	https://www.pca.state.mn.us/sbeap/

Minnesota Technical Assistance Program

Toll free	1-800-247-0015
Metro	612-624-1300
.....	http://www.mntap.umn.edu

Minnesota Department of Health

Toll free	1-888-345-0823
Metro	651-201-5000
.....	http://www.health.state.mn.us/