"BLACK RUBBER MIX"

_____Name
_____Date

…actually a mixture of 3 chemicals: N-isopropyl-N-phenyl-4-phenylenediamine or 4-isopropylaminodiphenylamine **(IPPD)**, N-cyclohexyl-N-phenyl-paraphenylenediamine **(CPPD)**, and isopropylphenyl *p*-phenylenediamine or N,N-diphenyl-4-phenylenediamine **(DPPD)**.

What is this?

These are chemicals that are added to rubber during production to reduce its drying and cracking. Because they leave a gray or black color in treated rubber, they are usually found in dark colored rubber products for industrial use. They may be masked by weaving into fabric. They are often present in natural rubber, styrene-butadiene, nitrile-butadiene, butadiene, and chloroprene rubber.

Where might they be found?

eyelash curlers
make-up sponges
watchbands
elasticized clothing
elasticized underwear
heavy black boots
shoes with tire soles
dental container
earphones
rubber bands, erasers
pens with grippers
mail sorters
computer mouse pad
chair rubber arm pads
office furniture wheels
stethoscope tubing
microscope eyepieces
adhesive tape
leg support bandages
wheelchair wheels
scuba/snorkel masks, goggles
diving suits
wind surfing rubber parts
walking stick handles
sports club handles
exercise mats, cushions
squash balls
car steering wheel
tires, wheels
dark rubber pipes, tubes
heavy black rubber gloves
wire insulation
rubber stoppers, plugs, gaskets, flanges
industrial belts
escalator handrail
gasoline inhibitor
paints
pest repellants

How to avoid them:

If you must handle black or gray rubber, wear protective heavy cloth or vinyl gloves. To identify workplace exposure, check for the above names on Material Safety Data Sheets (MSDS) and product ingredient lists. It may be necessary to contact the manufacturer to learn if these chemicals are present.
Persons allergic to black rubber mix are often also sensitized to rubber accelerators. Your doctor may suggest avoiding them too.

Possible cross-reactivity:

The common hair dye paraphenylenediamine is a closely related chemical. Be very careful if you choose to use this agent. Paraphenylenediamine is also present in some temporary henna tattoos. Rarely, cross-sensitivity also occurs to disperse textile dyes, anesthetics of the benzocaine and tetracaine family, the diuretic hydrochlorothiazide, and sulfa antibiotics.

Safe alternatives:

Substitute products made entirely of vinyl, polyvinyl chloride (PVC), silicone, plastic, polyurethane, polyethylene, acrylates, mylar, cloth, cork, wood, or leather.