

Type of EM Waves	<u>Use</u>	Detector	Danger	Protector	<u>Source</u>
Radio & TV	communication (under the sea, in space) Watching TV programmes, films, listening to the news	aerial	Large doses are believed to cause cancer, leukaemia and other disorders.	metal	transmitter, outer space
Microwaves	heating water molecules to warm food, communications	aerial	Cataracts, high levels can cause painful burns	metal screen	magnetron, transmitters, outer space
Infra Red	remote controls, security systems, automatic external lights searching for people in dark	photodiode, thermocouple, thermistor black bulb thermometer	clouding of the eye, thermal injury, high exposure damages the skin making hyperpigmentation worse.	aluminium foil, thermal insulators	warm objects, sun convector heaters
Visible	humans viewing the world, photography,	photodiode, photographic film, retina CCD	cataracts	polarising glasses, filter glasses	stars including the sun, LEDs, cinema screens
Ultra violet	detecting forged bank notes, causing white shirts to look cleaner kills bacteria and viruses	photodiode / melanocyte skin cells, , fluorescent materials	skin cancer, Arc eye damages the outmost protective layer of cells in the cornea.	glass / sunscreen cream	Fluorescent tubes, very hot objects, sun
X-Ray	detecting broken bones, checking suitcases at the airport,	photodiode / photographic film / electrical current detectors	cancer premature ageing	lead	X-ray tubes, stars
Gamma Rays	medical tracers to detect cancer, killing bacteria, sterlilising intruments, detecting broken pipes underground	Photodiode / photographic film / Geiger Muller Tube	cause damage to DNA, cancer	several cm of lead several m of concrete	Radioactive nuclei, outer space (stars)

"cataracts" in your eyes, which is a clouding of the lens preventing you from seeing clearly

http://www.darvill.clara.net/emag/