

# Follow E-learning courses



*measure card*



# Cards for Biosafety

*measure card*

# Watch safety videos



*measure card*



# Cards for Biosafety

*measure card*

**Call a  
responsible  
authority**



***measure card***



# Cards for Biosafety

*measure card*

# Maintain a wound care book



*measure card*



# Cards for Biosafety

*measure card*



# Make use of safety shoes obligatory



*measure card*



# Cards for Biosafety

*measure card*

# Guarantee a non-slip floor



*measure card*



# Cards for Biosafety

*measure card*

# Strict access policy



*measure card*



# Cards for Biosafety

*measure card*

# Use a robot-controlled lab



*measure card*



# Cards for Biosafety

*measure card*



# Use checklists and lab journals



*measure card*



# Cards for Biosafety

*measure card*

# Use step- by-step instructions



*measure card*



# Cards for Biosafety

*measure card*

# Use personal protection



*measure card*



# Cards for Biosafety

*measure card*

# Follow the yearly safety/ security training



*measure card*



# Cards for Biosafety

*measure card*



# Follow the four-eyes principle



*measure card*



# Cards for Biosafety

*measure card*

# Use clear protocols



*measure card*



# Cards for Biosafety

*measure card*

# Have audits and check-ups



*measure card*



# Cards for Biosafety

*measure card*

# Use stricter rules for higher risks



*measure card*



# Cards for Biosafety

*measure card*



# Use gloves



*measure card*



# Cards for Biosafety

*measure card*

# Use unbreakable containers and test tubes



*measure card*



# Cards for Biosafety

*measure card*

# Put a kill switch in the organism



*measure card*



# Cards for Biosafety

*measure card*

# Add materials for containment



*measure card*



# Cards for Biosafety

*measure card*



**Add materials  
to instantly  
kill a GMO  
when in open  
environment**



*measure card*



# Cards for Biosafety

*measure card*

# Vaccinate employees



*measure card*



# Cards for Biosafety

*measure card*

# Sealing the lab



*measure card*



# Cards for Biosafety

*measure card*

# Add cleaning tools



*measure card*



# Cards for Biosafety

*measure card*



# Place a mine canary



*measure card*



# Cards for Biosafety

*measure card*

# Burn organism



*measure card*



# Cards for Biosafety

*measure card*

# Freezing or heating an escaped organism



*measure card*



# Cards for Biosafety

*measure card*

# **Wear whole-body hazmat suits**



***measure card***



# Cards for Biosafety

*measure card*



# Place oxygen tanks for breathing



*measure card*



# Cards for Biosafety

*measure card*

**Only allow  
guests behind  
screens**



***measure card***



# Cards for Biosafety

*measure card*

# Mandatory training for guests



*measure card*



# Cards for Biosafety

*measure card*

# Make use of safety lines



*measure card*



# Cards for Biosafety

*measure card*



**Let employees  
and guests  
sign safety  
instructions**



***measure card***



# Cards for Biosafety

*measure card*

**Take a  
short online  
course with  
certification**



***measure card***



# Cards for Biosafety

*measure card*

# Use fake materials and setups



*measure card*



# Cards for Biosafety

*measure card*

**Have it checked  
and signed off  
by a colleague**



*measure card*



# Cards for Biosafety

*measure card*



# Hang cameras with AI software



*measure card*



# Cards for Biosafety

*measure card*

**Letting  
something  
really go wrong  
as an exercise**



***measure card***



# Cards for Biosafety

*measure card*

**Add additional  
safety  
procedures  
based on the  
“Swiss Cheese  
Model”**



***measure card***



# Cards for Biosafety

*measure card*

# Use Kevlar materials



*measure card*



# Cards for Biosafety

*measure card*



# Use E-logbooks



*measure card*



# Cards for Biosafety

*measure card*

# Use video or speech logs



*measure card*



# Cards for Biosafety

*measure card*

**Place a tank  
in front of  
the door**



***measure card***



# Cards for Biosafety

*measure card*

# Have strict security procedures



*measure card*



# Cards for Biosafety

*measure card*



# Update cards often



*measure card*



# Cards for Biosafety

*measure card*

# Use low air pressure



*measure card*



# Cards for Biosafety

*measure card*

**Change clothing  
in another room  
and use airlocks**



*measure card*



# Cards for Biosafety

*measure card*

**Have labelling  
checked twice  
by different  
people**



***measure card***



# Cards for Biosafety

*measure card*



# Use colours and symbols



*measure card*



# Cards for Biosafety

*measure card*

**Scan everything  
into the  
computer**



***measure card***



# Cards for Biosafety

*measure card*

# **Train managers about international procedures**



***measure card***



# Cards for Biosafety

*measure card*

# State a think-aloud protocol



*measure card*



# Cards for Biosafety

*measure card*



# Use transparent face masks



*measure card*



# Cards for Biosafety

*measure card*

# Punishment!



*measure card*



# Cards for Biosafety

*measure card*

# Hang security procedures all over



*measure card*



# Cards for Biosafety

*measure card*

# Use gamification techniques



*measure card*



# Cards for Biosafety

*measure card*



**Hang a sign:  
"Time since  
last incident:  
100 days!"**



***measure card***



# Cards for Biosafety

*measure card*

**Play “Cards  
for Biosafety”  
with the team  
every week**



***measure card***



# Cards for Biosafety

*measure card*

# Place an emergency generator



*measure card*



# Cards for Biosafety

*measure card*

# Use paper backup for systems



*measure card*



# Cards for Biosafety

*measure card*



**Place notable  
stickers on  
waste: "NO  
GMO HERE"**



*measure card*



# Cards for Biosafety

*measure card*

# GMO packaging should show clear disposal instructions



*measure card*



# Cards for Biosafety

*measure card*

# Use colour codes and icons



*measure card*



# Cards for Biosafety

*measure card*

**Provide all  
drainage with a  
GMO destructor  
(UV, heat, acid,  
sterilize)**



*measure card*



# Cards for Biosafety

*measure card*



# Set activity protocols



*measure card*



# Cards for Biosafety

*measure card*

# Keep an agenda for activities in and around the lab



*measure card*



# Cards for Biosafety

*measure card*

**Reward good  
behaviour:  
“Safest  
employee of  
the month”**



***measure card***



# Cards for Biosafety

*measure card*

# Use auxotrophy



*measure card*



# Cards for Biosafety

*measure card*



# Use isolation



*measure card*



# Cards for Biosafety

*measure card*

**Always have  
a doctor on  
standby (video  
conference)**



***measure card***



# Cards for Biosafety

*measure card*

# Do a health check



*measure card*



# Cards for Biosafety

*measure card*

**Always have  
neutralization  
substances  
present**



***measure card***



# Cards for Biosafety

*measure card*



# Place a first aid for GMO accidents box



*measure card*



# Cards for Biosafety

*measure card*

# Hang a fire extinguisher



*measure card*



# Cards for Biosafety

*measure card*

# Place smoke detectors



*measure card*



# Cards for Biosafety

*measure card*

# Make an extensive evacuation protocol



*measure card*



# Cards for Biosafety

*measure card*



# Do evacuation drills regularly



*measure card*



# Cards for Biosafety

*measure card*

# Hang a shotgun



*measure card*



# Cards for Biosafety

*measure card*

# Hang intelligent cameras



*measure card*



# Cards for Biosafety

*measure card*

# Make use of registration and identification



*measure card*



# Cards for Biosafety

*measure card*



# Install fire doors



*measure card*



# Cards for Biosafety

*measure card*

# Install emergency doors



*measure card*



# Cards for Biosafety

*measure card*

**Have guests  
searched before  
entering**



*measure card*



# Cards for Biosafety

*measure card*

# Keep the lab off the internet



*measure card*



# Cards for Biosafety

*measure card*



# Give test animals a GPS tracker



*measure card*



# Cards for Biosafety

*measure card*

# Count the lab animals regularly



*measure card*



# Cards for Biosafety

*measure card*

**Have digital  
entries double-  
checked**



***measure card***



# Cards for Biosafety

*measure card*

# Let an AI go over digital entries



*measure card*



# Cards for Biosafety

*measure card*



**Only have  
small doses  
of hazardous  
substances  
available**



***measure card***



# Cards for Biosafety

*measure card*

**Let entry  
passes expire  
automatically,  
employees  
need to renew  
every week**



***measure card***



# Cards for Biosafety

*measure card*

# Role-play a burglary as exercise



*measure card*



# Cards for Biosafety

*measure card*

# Check whether mobile phones are turned on/off



*measure card*



# Cards for Biosafety

*measure card*



# Install a Faraday cage



*measure card*



# Cards for Biosafety

*measure card*

# Make use of decoys



*measure card*



# Cards for Biosafety

*measure card*

# Place handcuff on GMO boxes



*measure card*



# Cards for Biosafety

*measure card*

# Use a tracker on a mobile phone



*measure card*



# Cards for Biosafety

*measure card*



# Make use of plastic packaging



*measure card*



# Cards for Biosafety

*measure card*

# Use padding in GMO containers



*measure card*



# Cards for Biosafety

*measure card*

# Use temperature sensors



*measure card*



# Cards for Biosafety

*measure card*

# Use placebos



*measure card*



# Cards for Biosafety

*measure card*



# Use locks



*measure card*



# Cards for Biosafety

*measure card*

# Use transport checklists and protocols



*measure card*



# Cards for Biosafety

*measure card*

# Build greenhouses



*measure card*



# Cards for Biosafety

*measure card*

# Use insect repellant



*measure card*



# Cards for Biosafety

*measure card*



# Place large signs with warnings



*measure card*



# Cards for Biosafety

*measure card*

# Place fences



*measure card*



# Cards for Biosafety

*measure card*

# **Make access very difficult**



***measure card***



# Cards for Biosafety

*measure card*

# Hire a security guard



*measure card*



# Cards for Biosafety

*measure card*



# Hang nets over GM-field



*measure card*



# Cards for Biosafety

*measure card*

# Place scarecrows



*measure card*



# Cards for Biosafety

*measure card*

# Use strict protocols for outdoor experiments



*measure card*



# Cards for Biosafety

*measure card*

# **Burn remainders of GM-crops**



*measure card*



# Cards for Biosafety

*measure card*



# Remove pollen from plant



*measure card*



# Cards for Biosafety

*measure card*

# Only work with one gender



*measure card*



# Cards for Biosafety

*measure card*

**Make sure  
there is enough  
distance  
between plants**



***measure card***



# Cards for Biosafety

*measure card*

# Use sound as a repellent



*measure card*



# Cards for Biosafety

*measure card*



# Use birds of prey



*measure card*



# Cards for Biosafety

*measure card*

# **Make instructions in several languages**



***measure card***



# Cards for Biosafety

*measure card*

# Work in a remote place



*measure card*



# Cards for Biosafety

*measure card*

# Collect all flowers



*measure card*



# Cards for Biosafety

*measure card*



# Do pollination artificially



*measure card*



# Cards for Biosafety

*measure card*

# Use strict legal contracts



*measure card*



# Cards for Biosafety

*measure card*

# Provide counselling



*measure card*



# Cards for Biosafety

*measure card*

# Make rooms classy and cosy



*measure card*



# Cards for Biosafety

*measure card*



# Give good compensation



*measure card*



# Cards for Biosafety

*measure card*

# Work from low doses to high doses



*measure card*



# Cards for Biosafety

*measure card*

# Test on animals first



*measure card*



# Cards for Biosafety

*measure card*

**Use cell lines  
instead of  
human subjects**



***measure card***



# Cards for Biosafety

*measure card*



**Check multiple  
times on  
identity**



***measure card***



# Cards for Biosafety

*measure card*

# Use video calls



*measure card*



# Cards for Biosafety

*measure card*

**Don't inject  
hazardous  
substances  
directly, only via  
IV (intravenous  
drip)**



*measure card*



# Cards for Biosafety

*measure card*

# Have strict intakes



*measure card*



# Cards for Biosafety

*measure card*



**Place toilets  
and showers  
that are not  
connected to  
the sewers**



***measure card***



# Cards for Biosafety

*measure card*

# Don't allow visitors



*measure card*



# Cards for Biosafety

*measure card*

# Only visit in hazmat clothing



*measure card*



# Cards for Biosafety

*measure card*

# Strict thresholds on input



*measure card*



# Cards for Biosafety

*measure card*



# Strict protocols for interruptions of study



*measure card*



# Cards for Biosafety

*measure card*

# Use double blinded studies



*measure card*



# Cards for Biosafety

*measure card*

# Have an independent regulator



*measure card*



# Cards for Biosafety

*measure card*

**Spread  
circumstances  
substantially**



***measure card***



# Cards for Biosafety

*measure card*



**Build on  
experiments  
proven to  
be safe**



***measure card***



# Cards for Biosafety

*measure card*

# Communicate problems quickly



*measure card*



# Cards for Biosafety

*measure card*

# Use markers for control purposes



*measure card*



# Cards for Biosafety

*measure card*

# Test with large numbers



*measure card*



# Cards for Biosafety

*measure card*



**Use enough  
spread in  
type of host**



***measure card***



# Cards for Biosafety

*measure card*

# Investigate long-term effects



*measure card*



# Cards for Biosafety

*measure card*

**Only make step-  
by-step small  
adjustments**



***measure card***



# Cards for Biosafety

*measure card*

**Test for  
unwanted  
adjustments,  
e.g. by  
sequencing  
entire DNA**



***measure card***



# Cards for Biosafety

*measure card*



# Follow multiple generations



*measure card*



# Cards for Biosafety

*measure card*

# Destroy thoroughly



*measure card*



# Cards for Biosafety

*measure card*

# Kill it with fire



*measure card*



# Cards for Biosafety

*measure card*

# Include experts



*measure card*



# Cards for Biosafety

*measure card*



**Limit the  
operation of the  
GMO to specific  
conditions**



*measure card*



# Cards for Biosafety

*measure card*

**Use specific  
toxins that only  
combat target  
organisms**



***measure card***



# Cards for Biosafety

*measure card*

# Monitor over time



*measure card*



# Cards for Biosafety

*measure card*

# Test, test, test



*measure card*



# Cards for Biosafety

*measure card*



# Ban entirely



*measure card*



# Cards for Biosafety

*measure card*

# Use biosensors



*measure card*



# Cards for Biosafety

*measure card*

# Inspect regularly



*measure card*



# Cards for Biosafety

*measure card*

# Use models first



*measure card*



# Cards for Biosafety

*measure card*



# Integrate risk research into research programs



*measure card*



# Cards for Biosafety

*measure card*

# Inclusion of a chemically controlled gene switch



*measure card*



# Cards for Biosafety

*measure card*

**Application  
of 1 in 5 or 6  
crop rotation  
to ensure that  
the ecosystem  
can recover**



*measure card*



# Cards for Biosafety

*measure card*

# Personal ban on blood donation



*measure card*



# Cards for Biosafety

*measure card*



# **Explain risks of getting pregnant (again)**



***measure card***



# Cards for Biosafety

*measure card*

# Directly inform technical support



*measure card*



# Cards for Biosafety

*measure card*

# Inform PI/ Technician



*measure card*



# Cards for Biosafety

*measure card*

# Throw it away



*measure card*



# Cards for Biosafety

*measure card*



# Inform Technician



*measure card*



# Cards for Biosafety

*measure card*

# Take mop and clean



*measure card*



# Cards for Biosafety

*measure card*

# Dual-Use Quick scan of the Biosecurity Office



*measure card*



# Cards for Biosafety

*measure card*

# Restriction on publication of results



*measure card*



# Cards for Biosafety

*measure card*



# Security check on all data carriers



*measure card*



# Cards for Biosafety

*measure card*

# Automated backup system



*measure card*



# Cards for Biosafety

*measure card*

# Quarantaine monitoring



*measure card*



# Cards for Biosafety

*measure card*

# Intensified police investigation



*measure card*



# Cards for Biosafety

*measure card*



# **Broadcast burglar report over media (TV, papers, radio)**



*measure card*



# Cards for Biosafety

*measure card*

# **Install alarm app on supervisor's cell phone**



***measure card***



# Cards for Biosafety

*measure card*

# Post regulations in a highly visible manner



*measure card*



# Cards for Biosafety

*measure card*

**Use dedicated  
and well  
shielded  
communication  
tools**



*measure card*



# Cards for Biosafety

*measure card*



# Just don't do it



*measure card*



# Cards for Biosafety

*measure card*

# Just don't do it



*measure card*



# Cards for Biosafety

*measure card*

# Just don't do it



*measure card*



# Cards for Biosafety

*measure card*

# Just don't do it



*measure card*



# Cards for Biosafety

*measure card*



# Just don't do it



*measure card*



# Cards for Biosafety

*measure card*