Academia Sinica

Maternal Health Protection Plan

I. Accordance

The Maternity Health Protection Program is implemented in accordance with Article 31 of the Occupational Safety and Health Act and Article 49 of the Labor Standards Act, with reference to the Technical Guidelines for Maternity Health Protection at the Workplace (3rd edition) promulgated by the Ministry of Labor on June 25, 2024.

Occupational Safety and Health ActArticle 31

1. Employers shall institute hazard assessments, controls, and hierarchy management measures for work which is potentially hazardous to maternal health in industries designated by the Central Competent Authority; for female laborers who are still within their first postpartum year, work adjustment or reassignment or other protective measures shall be adopted in accordance with the physician's suitability assessment recommendations, and records of these measures should be kept.
2. In the event that the laborers in the preceding paragraph experience health abnormalities or adverse reactions due to changes in working conditions or operating processes during the period of protection, where a physician's assessment confirms that the laborers are unsuitable for her original work, the employers shall rearrange the matter in accordance with the provisions of the preceding paragraph.
3. Regulations regarding the designation of industries, types of work considered potentially hazardous to maternal health, hazard assessment procedures and controls, hierarchy management methods, suitability assessment principles, work adjustment or reassignment, physician qualifications and report formats, and records keeping in Paragraph 1 and other binding matters to be complied with shall be stipulated by the Central Competent Authority.
4. Where the employers are not informed by the person involved of the pregnancy or childbirth and breach the regulations stipulated in Paragraph 1 or 2, the employers shall be exempt from penalty; however, this exemption shall not apply if employers are aware or could have known of the fact.

Labor Standards Act Article 49

1. An employer shall not make his /her female worker perform her work between ten o'clock in the evening and six o'clock in the following morning. However, with the consent of a labor union, or if there is no labor union in a business entity, with the approval of a labor-management conference, and the following requirements in each subparagraph are met, the preceding restrictions are not applied:
   a. The necessary safety and health facilities are provided.
   b. When there are no public transportation facilities available, transportation facilities are provided or dormitories for female workers are arranged.
2. For the necessary safety and health facilities referred to in Subparagraph 1 of the preceding

Paragraph, their standards shall be determined by the Central Competent Authority. However, the safety and health facilities set forth in an agreement between the employer and the female worker are better than requirements in the Act, the said agreement shall be controlling.

3. When a female worker is unable to work between ten o'clock in the evening and six o'clock in the following morning due to health or other justifiable reasons, the employer shall not force her to work.

   Due to the occurrence of an act of God, an accident, or an unexpected event, and so the employer has a necessity to make his/ her female worker perform her work between ten o'clock in the evening and six o'clock in the following morning, the requirements in the Paragraph 1 shall not be applied.
4. For those female workers who are pregnant or are feeding their babies, the proviso clause of Paragraph 1 and the preceding Paragraph shall not be applied.

II. Purpose

To plan and implement safety and health measures to protect women's reproductive functions and to safeguard the health of pregnant workers, workers within one year postpartum, and their fetuses or infants, while ensuring both maternity protection and equality in employment.

III. Eligible Persons

The following Academia Sinica personnel are eligible for maternity health protection:

1. Personnel who are pregnant or within one year after childbirth.
2. Personnel who are planning to become pregnant, or who continue to breastfeed more than one year after childbirth, may request that the employer provide maternity health protection measures.
3. Personnel who are willing to receive assessment services and voluntarily apply.

IV. Scope of Application

1. Maternity health protection measures shall be implemented for the following personnel:
   A. Female workers who are pregnant, within one year after childbirth, or breastfeeding, and who engage in any of the following work:
      a. Work involving exposure to chemicals classified under CNS 15030 as Category 1 reproductive toxicants, Category 1 germ cell mutagens, or other chemicals that may adversely affect lactation.
      b. Work likely to cause health hazards, including work involving posture-related strain, manual lifting, carrying, pushing or pulling heavy objects, shift work, night work, working alone, and excessive workload.
      c. Work specified in Subparagraphs 5 through 14 of Paragraph 1 and Subparagraphs 3 through 5 of Paragraph 2 of Article 30 of the Occupational Safety and Health Act.
      d. Other work designated and announced by the central competent authority.
   B. Female workers of childbearing age engaged in work at sites where lead and its compounds are dispersed.

2. Hazard assessment shall be conducted for the following personnel:

   Workers who are pregnant, within one year after childbirth, or breastfeeding, and who are exposed to work environments or work patterns involving dangerous or hazardous work as specified in Paragraph 1 or Paragraph 2 of Article 30 of the Occupational Safety and Health Act.

V. Responsibilities

1. Supervisors of each unit (including supervisors of institutes, research centers, offices, and administrative units of Academia Sinica): responsible for the implementation and promotion of this Program.
2. Personnel responsible for the maternity health protection program in each unit:
   A. Assist in the promotion, implementation, and provision of information related to this Program.
   B. Submit, by February 28/29, May 31, August 31, and November 30 of each year, lists of applicable personnel as needed according to unit characteristics (including those who are pregnant, within one year after childbirth, or breastfeeding), complete the Health Protection and Prevention Program Survey Form, and refer such cases to the nurse of the Environmental Safety Section of the General Affairs Office for case management.
3. General Affairs Office at Headquarters (Environmental Safety Section): responsible for the revision, promotion, and implementation of this Program.
4. Southern Campus Office at Headquarters (Administrative Program Section): responsible for the promotion and implementation of this Program.
5. Occupational safety and health personnel: responsible for hazard identification and assessment of workplace environments and operations, risk classification, and the management of workplace improvement and hazard control.
6. Occupational health service nurses: responsible for collecting from each unit the list of personnel eligible for the maternity health protection program; conducting case follow-up and management for personnel at the Nangang Campus, NTU Campus, and other work locations; distributing the maternity health protection questionnaire (Annex 2: Self-Assessment Form on Health Conditions of Workers During Pregnancy and Within One Year After Childbirth); arranging interviews and assessments by physicians of the occupational health service medical team; and handling administrative work before workplace visits. In addition, they shall provide the occupational health service nurse of the health service medical team in the Southern Campus with the list of eligible personnel, distribute the maternity health protection questionnaire, and conduct subsequent case follow-up and management.
7. Health service medical team: responsible for data interpretation, workplace assessment, and the provision of health guidance and management.
8. All personnel: shall cooperate with and participate in the implementation of this Program.

VI. Procedures

1. Hazard identification and assessment: Occupational safety and health personnel, together with the health service medical team and the personnel responsible for the maternity health protection program in each unit, shall jointly carry out hazard identification and assessment

of workplace environments and operations, risk classification, workplace improvement, and hazard control management. Records shall be made in Annex 1 (Workplace Hazard Assessment and Maternity Health Protection Measures Form) with reference to Appendix 1 (Reference for Overview of Workplace Hazard Assessment).

2. Based on the list of applicable personnel provided by the personnel responsible for the maternity health protection program in each unit, the occupational health service nurse shall contact eligible personnel and request them to complete the maternity health protection questionnaire (Annex 2: Self-Assessment Form on Health Conditions of Workers During Pregnancy and Within One Year After Childbirth). After the questionnaire is completed, the health service medical team shall conduct health risk classification in accordance with Appendix 2 (Reference Table for Risk Classification in Maternity Health Protection) and Appendix 3 (Category 1 Reproductive Toxicants or Germ Cell Mutagens under the GHS Classification), and complete Annex 3 (Recommendation Form for Work Suitability Arrangements for Workers During Pregnancy and Within One Year After Childbirth) for case management.
3. Based on the assessment results in Annex 3 of this Program, maternity health protection cases for whom interviews are recommended shall be scheduled for individual interviews with the health service medical team. Annex 4 (Interview Results and Recommended Measures for Maternity Health Protection Cases) shall be completed, and maternity health protection measures, including hazard prevention measures and physician work suitability assessments, shall be implemented.
4. If abnormal health conditions are identified and further assessment or follow-up examination is required, the worker shall be referred to an obstetrician-gynecologist or another relevant specialist.
5. Workplace visits shall be arranged on a rolling basis, as needed, for personnel included in the maternity health protection list. If a workplace visit is required, the unit supervisor shall be notified in advance, and the visit schedule shall be confirmed before the visit. After the visit, the health service medical team shall complete a visit report and recommendations.
6. The visit report and recommendations shall be provided to both the employee and the unit supervisor. To protect personal privacy, the version provided to the unit supervisor shall exclude detailed personal health information and shall focus primarily on the assessment of hazard risks. Upon receipt of the report, the employee and/or the unit supervisor shall evaluate and implement improvement measures in accordance with the recommendations.
7. The occupational health service nurse shall continue to follow up on the case after the workplace visit.
8. Female employees who are pregnant or within one year after childbirth may reapply for risk assessment if there is any change in their physical or mental condition or in their job duties.
9. Relevant records shall be established and maintained by the occupational health service nurse, who shall also continue to follow up on case status.
10. Effectiveness evaluation and continuous improvement shall be carried out in accordance with Annex 5 (Maternity Health Protection Implementation Record Form).

VII. Management Classification

1. First-level Management: The work performed or the health condition **does not** pose a hazard to the health of the mother, fetus, or infant. Upon evaluation by the occupational health service physician, the individual may continue performing her original work. After being informed of the management classification, the individual may still request an assessment for work adjustment based on her health condition.
2. Second-level Management: The work performed or the health condition **may** affect the health of the mother, fetus, or infant. The individual's work unit shall implement appropriate environmental controls and work adjustments. The nurse of the Environmental Safety Section of the General Affairs Office shall arrange an interview with the occupational health service physician for risk assessment and communication. A subsequent reassessment of the management classification shall be conducted to determine whether reclassification is appropriate.
3. Third-level Management: The work performed or the health condition **does** pose a hazard to the health of the mother, fetus, or infant. The individual's work unit shall immediately implement work adjustments and environmental controls. The nurse of the Environmental Safety Section of the General Affairs Office shall arrange an interview with the occupational health service physician for risk assessment and communication. A subsequent reassessment of the management classification shall be conducted to determine whether reclassification is appropriate.

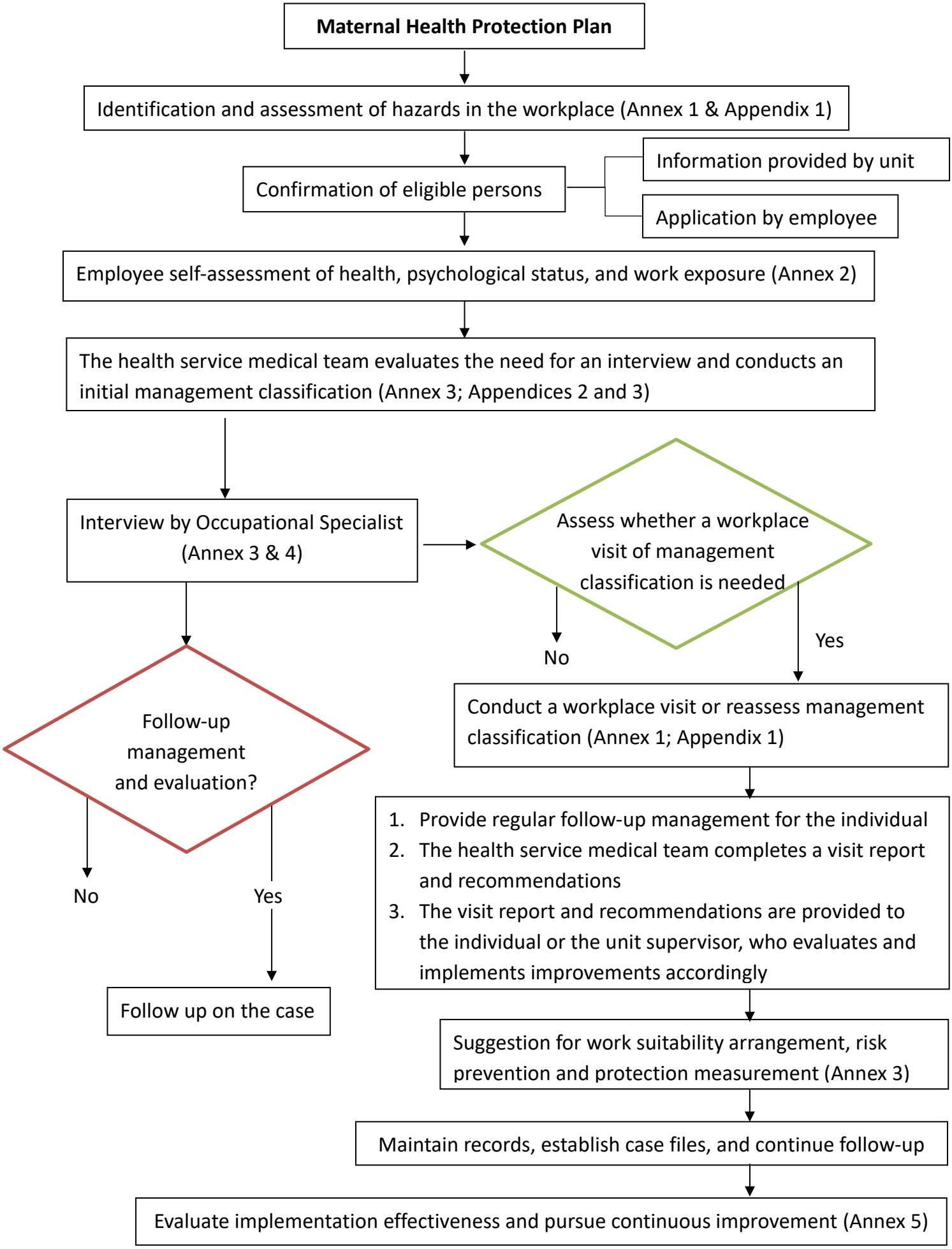


Figure 1. Flowchart of the Maternity Health Protection Program

Annex 1.

Form for Workplace Hazard Assessment and Maternity Health Protection Measures

A. Basic information for the workplace
Name of Unit/Department: Working hours: ☐Day work ☐Work in shifts ☐Other: _____
B. Types of occupational hazards
Overview: ☐Physical hazards: _____ ☐Chemical hazards: _____ ☐Biological hazards: _____ ☐Ergonomic hazards: _____ ☐Psychosocial hazards / Violence: _____ ☐Others: _____
C. Explanation
D. Grading of risks
□ N/A (not applicable to Regulations of the Maternity Health Protection at the Workplace, Article 3 to 5) □ First-level Management □ Second-level Management □ Third-level Management
E. Improvement and management measures
1. Engineering Controls: ☐ Process improvement; please specify: _____ ☐ Installation of ventilation equipment; please specify: _____ ☐ Other; please specify: _____ ☐ No improvement measures are recommended at this time. 2. Administrative Controls: ☐ Adjustment of working hours; please specify: _____ ☐ Job or work adjustment; please specify: _____ ☐ Other; please specify: _____ ☐ No administrative control measures are recommended at this time. 3. Use of personal protective equipment; please specify: _____ 4. Other measures adopted; please specify: _____
F. Assessor and execution date (sign only for the actual executor)
□ Occupational safety and health personnel, signature: _____ □ Physician of occupational health service, signature: _____ □ Nurse of occupational health service, signature: _____ □ Others: department_____, position_____, signature: _____ Execution date: _____ (YYYY/MM/DD)

Annex 2.

Self-Assessment Form on Health Conditions of Employees During Pregnancy and Within One Year After Childbirth

(To be completed by the employee. The Maternal Health Handbook may be consulted for reference.)

date: _____ (YYYY/MM/DD)

A. Basic Information	
Employee name:	Age:
Unit/Department:	Job title/description:

1. Gestational age: _____ weeks; Prenatal care institution: _____

Expected date of delivery: _____ / _____ / _____

2. Is this a multiple pregnancy? ☐ No ☐ Yes (multiple gestation)

3. Postpartum (Date of delivery: _____ / _____ / _____)

☐ Currently breastfeeding

☐ Not currently breastfeeding

Height: _____ cm Weight: _____ kg Blood pressure: _____ / _____ mmHg

B. Past Medical History

□ None □ Asthma □ Hypertension □ Diabetes mellitus □ Cardiovascular diseases □ Anemia

□ G6PD deficiency □ Kidney/urinary system diseases

☐ History of surgery; please specify: _____

☐ Other; please specify: _____

C. Family History

□ None □ Asthma □ Hypertension □ Diabetes mellitus □ Cardiovascular diseases □ Anemia

□ G6PD deficiency □ Kidney/urinary system diseases

☐ Other; please specify: _____

D. Obstetric and Gynecologic History

1. Immune status (vaccinated or with documented immunity):

☐ Hepatitis B ☐ Varicella ☐ MMR (measles, mumps, and rubella)

2. Obstetric history:

Number of pregnancies: _____; Number of deliveries: _____; Number of miscarriages: _____

3. Mode of delivery:

Vaginal delivery: _____ times; Cesarean delivery: _____ times; Complications: ☐ No ☐ Yes

4. Past pregnancy history:

☐ None ☐ Congenital uterine anomaly ☐ Uterine fibroids ☐ History of cervical surgery

☐ Miscarriage at or after the second trimester (14 weeks)

☐ History of preterm delivery (delivery before 37 weeks of gestation)

☐ Other; please specify: _____

E. Risk Factor Assessment for Pregnancy and Postpartum

1. Current work status:

Average number of working days per week: _____ days

Average working hours per day: _____ hours,Shift work: □ Yes □ No

Average overtime hours per week during the past month: _____ hours

Night work (10 PM–6 AM): □ Yes □ No

2. Current pregnancy-related conditions:

☐ Multiple pregnancy ☐ Urinary tract infection ☐ Preeclampsia ☐ Gestational diabetes mellitus

☐ Placenta previa ☐ Placental abruption ☐ Vaginal bleeding (after 14 weeks of pregnancy)

☐ Anemia (hemoglobin < 10 g/dL) ☐ Excessive uterine contractions (more than 4 times per hour)

☐ Fetal structural abnormalities identified by ultrasound

☐ Fetal growth restriction (gestational age > 37 weeks and fetal weight ≤ 2500 g)

☐ Family history of hereditary disease or other congenital abnormalities

☐ Other: _____

3. Personal factors:

☐ None ☐ No regular prenatal check-ups ☐ Smoking □ Alcohol use

☐ Medication use; please specify: _____

☐ Environmental factors in daily life (e.g., heat, air pollution)

☐ Age (under 18 years or over 40 years)

☐ Pre-pregnancy body weight under 45 kg or height under 150 cm

Psychological status:

☐ Normal ☐ Anxiety ☐ Depression ☐ Other: _____

Sleep:☐Normal ☐Insomnia ☐Requires medication ☐Other; please specify:_____

4. Postpartum uterine involution:

☐ Uterine involution is normal

☐ Incomplete uterine involution; please specify: _____

5. Other examinations; please specify: _____

F. Subjective Symptoms

☐ None ☐ Bleeding ☐ Abdominal pain ☐ Cramping ☐ Others_____

Assessment of Occupational Expose and Hazard Working Women

Brief Symptom Rating Scale (BSRS-5)

The items in this scale are intended to help you understand your physical and psychological adjustment. Please think carefully about the past week (including today) and indicate the extent to which each item has caused you distress or discomfort by circling the response that best represents how you have felt.

Items	not at all	a little	moderately	quite a bit	extremely
1.Trouble falling asleep	0	1	2	3	4
2.Feeling tense or keyed up	0	1	2	3	4
3.Feeling easily annoyed or irritated	0	1	2	3	4
4.Feeling blue	0	1	2	3	4
5.Feeling inferior to others	0	1	2	3	4
6.Having suicidal thoughts	0	1	2	3	4

Edinburgh Postnatal Depression Scale (EPDS)

Please assess your condition over the past 7 days, rather than only how you feel today.

Please mark an “V” in the box next to your answer.

This scale can be used during the prenatal and postpartum stages

Statement / Response	0	1	2	3
I have been able to laugh and see the funny side of things	☐As much as I always could	☐Not quite so much now	☐Definitely not so much now	☐Not at all
I have looked forward with enjoyment to things	☐As much as I ever did	☐Rather less than I used to	☐Definitely less than I used to	☐Hardly at all
I have blamed myself unnecessarily when things went wrong	☐No, never	☐Not very often	☐Yes, some of the time	☐Yes, most of the time
I have been anxious or worried for no good reason	☐No, not at all	☐Hardly ever	☐Yes, sometimes	☐Yes, very often
I have felt scared or panicky for no very good reason	☐No, not at all	☐No, not much	☐Yes, sometimes	☐Yes, quite a lot
Things have been getting on top of me	☐ No, I have been coping as well as ever	☐ No, most of the time I have coped quite well	☐ Yes, sometimes I have not been coping as well as usual	☐ Yes, most of the time I have not been able to cope at all
I have been so unhappy that I have had difficulty sleeping	☐No, not at all	☐Not very often	☐Yes, sometimes	☐Yes, most of the time
I have felt sad or miserable	☐No, not at all	☐Not very often	☐Yes, sometimes	☐Yes, most of the time
I have been so unhappy that I have been crying	☐No, not at all	☐Occasionally	☐Yes, sometimes	☐Yes, most of the time
The thought of harming myself or my child has occurred to me	☐Never	☐Hardly ever	☐Sometimes	☐Yes, quite often

Total Score：

🟢 Less than 9: Depression not likely. You have great mental health. Please continue to maintain.

🟡 10~12: Depression possible. You are likely to have emotional problems. Please speak more with your loved ones and seek professional assistance if needed.

🔴 13 and above: You have a fairly high possibility of depression and should seek diagnostic assessment and treatment from professional doctors.

Working condition assessment

Items	Yes	No
Do you need to stand or sit for a long time at work and have difficulty taking breaks?		
Do you need to change from a low to high position frequently at work that causes dizziness or syncope?		
Is there enough space in the workplace for you to move freely or stretch well during pregnancy?		
Do you need to work alone (no one else in the workplace)?		
Is there personal protective equipment or personal protective clothing of appropriate size and comfort available in the workplace?		
Do you often need to drive a vehicle or ride a motorcycle to go out at work?		
Do you need to travel abroad frequently at work?		
Are you prone to falls and slips in the workplace?		
Are you currently experiencing any physical discomfort (such as morning sickness, physical or mental overload) affecting work?		
Is there a breastfeeding room in your workplace?		
Have you adjusted your position or moved away from your original workplace due to pregnancy or childbirth?		
Are you concerned about any exposure at work that could cause harm to yourself, the fetus or breastfeeding?		

Work Exposure During the Past Six Months

Please place a "V" in the appropriate blank according to the frequency of use or exposure. If you have not used or been exposed to the item at all, leave it blank.

"Used/Exposed" indicates an average frequency of less than 3 days per week.

"Frequently Used/Exposed" indicates an average frequency of 3 or more days per week.

◎生物性暴露 Biological exposure			
細胞 Cells		**有使用 Ever**	**經常用 Often**
人類細胞 Human cells			
其他靈長類細胞 Cells from other primates			
哺乳類細胞 Mammals' cells			
禽類細胞 Avian cells			
非脊椎動物細胞 Cells from non-vertebrates			
Others_____			
細菌 Bacteria		**有使用 Ever**	**經常用 Often**
E. coli.	BL21		
	DH5a		
	DH10B		
	JM109		
	XL1-blue		
	XL10-Gold		
	SCS110		
	MC1061		
	JM101		
	STBL3		
	Others_____		
Pasteurella multocida			
Agrobacterium Tumefaciens			
Bacillus subtilis			
Bordetella bronchiseptica			
Streptomyces coelicolor			
Dictyostelium discoideum			
Salmonella			
Listeria			
Listeria monocytogenes			
Mycobacterium			
Mycobacterium smegmatis			
Nontuberculous Mycobacterium			
Mycobacteria Tuberculosis			
Micrococcus flavus			
Meiothermus			

細菌 Bacteria	有使用 Ever	經常用 Often
Geobacillus		
Helicobacter pylori		
Klebsiella pneumonia		
MRSA		
VRE		
Marine bacteria		
Neisseria meningitis		
Pseudomonas aeruginosa		
Phytoplasma		
Staphylococcus aureus		
Staphylococcus epidermidis		
Thermus thermophiles		
Trichomonas vaginalis		
Bordetella bronchiseptica		
Clostridium piliforme		
Mycoplasma pulmonis		
Vibrio vulnificus		
Salmonella		
Others_____		
細菌抗藥性 Antibiotic resistance of Bacteria	**有使用 Ever**	**經常用 Often**
Ampicillin		
Bacterial artificial chromosome		
Beta-lactamase inhibitors		
Chloramphenicol		
Carbenicillin		
Cefotaxime		
Gentamicin		
Hygromycin		
Kanamycin		
Neomycin		
Puromycin		
Rifampicin		
Spectinomycin		
Streptomycin		
Tetracycline		
Timentin		
others		

黴菌 Fungi/mold		有使用 Ever	經常用 Often
Yeast	BJ2168		
	Candida albicans		
	Candida spp.		
	Kluyveromyces marxianus		
	Pichia pastoris		
	Pichia stipitis		
	Pichia		
	Saccharomyces cerevisiae		
	YJM145		
	YJM789		
Aspergillus			
Yarrowia lipolytica			
木黴菌 Trichoderma			
Others_____			
黴菌抗藥性 Antibiotics resistance of Fungi		**有使用 Ever**	**經常用 Often**
Blasticidin S			
G418			
Neomycin			
Puromycin			
Tamiflu			
Others_____			

病毒 Virus	有使用 Ever	經常用 Often
AcMNPV		
Adeno-associated v		
Adenovirus		
Bacteriophage (M13)		
Bacteriophage (Φx174)		
Bacteriophage (others_____)		
Dengue virus		
EBV		
Enterovirus 71		
Grouper iridovirus, GIV		
HIV		
Hepatitis virus (HBV)		
Hepatitis virus (HCV)		
Hepatitis virus (HDV)		
Hepatitis virus (others_____)		
Human cytomegalovirus		

病毒 Virus	有使用 Ever	經常用 Often
Influenza virus (H1N1, A/WSN/33)		
Influenza virus (H1N2)		
Influenza virus (H1N3)		
Influenza virus (H5N1, RG14)		
Influenza virus (Tamiflu-R)		
Influenza virus (others_____)		
Japanese encephalitis virus		
Lentivirus		
Lentivirus (pseudotyped)		
Lentivirus (VSV-G pseudotyped)		
Modified vaccine ankara (MVA)		
Mouse norovirus (MNV)		
Nodavirus		
Respiratory syncytial virus (RSV)		
Retrovirus		
Sindbis virus (SINV)		
Vaccinia virus		
Viral nervous necrosis		

昆蟲 Insects	有使用 Ever	經常用 Often
果蠅 Drosophila		
蒼蠅 Fly		
麗蠅 Calliphoridae		
介殼蟲 Coccoidea		
天牛 Longhorn beetle		
白蟻 White ant		
家蠶 Common silkworm		
蛆 Maggot		
椿象 Stink bug		
厲椿 Eocanthecona		
線蟲 Nematodes		
蟑螂 Cockroaches		
Others _____		

動物 Animals		**有使用 Ever**	**經常用 Often**
雞 Chicken			
Guinea pig			
Mice	B6		
	BALB/6		
	BALB/c		
	C.B-17 scid		
	C2J		
	C3H		
	C57		
	C57Bl6		
	CBA		
	FV B		
	gld Transgenic		
	HD-N171-82Q		
	ICR		
	Mus musculus		
	NOD		
	NOD/SCID		
	NOG		
	NSG		
	Nude		
Rabbit	荷蘭兔 Dutch rabbit		
	New Zealand White		
Rat	SD		
	Wister		
	WKY		
Other animals_____			
魚及水生動物 Fish/aquatic animal		**有使用 Ever**	**經常用 Often**
斑馬魚 Zebrafish			
石斑魚 Rockfish			
青鱂魚 Medaka			
軟絲 Squid			
海膽 Urchin			
蝦子 Shrimp			
非洲爪蟾 African clawed toad			
牛蛙 Bullfrog			
Others _____			

人類檢體 Human specimen	有使用 Ever	經常用 Often
尿液 Urine		
血液 Blood		
痰液 Sputum		
組織 Tissue		
糞便 Stool		
唾液 Sliva		
Others _____		

◎化學性暴露 Chemical exposure					
化學物質 Chemical agents	Ever	Often	化學物質 Chemical agents	Ever	Often
Acetic Acid			2-Ethoxyethanol		
Acetone			2-Ethoxyethyl acetate		
Acetonitrile			Ethyl Acetate		
Acrylamide			Ethylene oxide		
Aluminum compound			Fluorine		
Ammonia			Formaldehyde		
Ammonium hydroxide			Formamide		
Antimony particles			Glutaraldehyde		
Arsenic compound			Gold compound		
Benzene			Hydrogen chloride		
Boride			Hydrogen fluoride		
Bromide			Hydrogen peroxide		
1,3-Butadiene			2-Imidazolidinethione		
Butanol			Iron carbonyl		
Cacodylate Buffer			Isoamyl Alcohol		
Cadmium compound			Isoflurane		
Carbon dioxide			Isopropanol		
Carbon disulfide			Lead compound		
Carbonyldiimidazole			Magnesium compound		
Chlorine/Chloride			Manganese compound		
Chlorobenzene			Mercaptoethanol		
Chloroform			Mercury		
Chromium compound			Methanol		
Cobalt compound			Methoxyacetic acid		
Collidine			2-Methoxyethanol		
Copper compound			Methylformamide		
1,8-Diazabicyclo[5.4.0]undec-7-ene (DBU)			Methyloxirane		
Dibromobenzene			1-Methyl-2-pyrrolidone		

化學物質 Chemical agents	Ever	Often	化學物質 Chemical agents	Ever	Often
Dibutyltin dilaurate (DBTL)			2-Methyltetrahydrofuran		
Dichlorobenzene			Nano Particle		
Dichloroethane			Nano Particle		
Dichloromethane			Nanodiamond		
Diethyl sulfate			n-hexane		
1,2-Dimethoxyethane			Nickel compound		
Dimethyl methylphosphonate			Nitric acid		
Dimethyl sulfoxide			Nitrogen		
Dimethylacetamide			Nitrogen dioxide		
Dimethylformamide			N-Methyl-2-Pyrrolidone		
Dioxane			Organic solvent		
1,4-Di-tert-butylbenzenz			Osmium solvent		
EDTA			Palladium compound		
Ethanol			Paraformaldehyde		
Ether			Pentane		
Ethidium Bromide			Phenol		
2-Ethoxyethanol			Photoresist		
2-Ethoxyethyl acetate			Phthalate		
Ethyl Acetate			Piperidine		
Ethylene oxide			Platinum		
Fluorine			Pyridine		
Formaldehyde			Ruthenium		
EDTA			Silica		
Ethanol			Silver compound		
Ether			Sodium dodecyl sulfate (SDS)		
Ethidium Bromide			Sodium hydroxide		
Sulfuric acid			Xylene		
Tetramethylethylenediamine (TEMED)			Zinc compound		
Thinol			其他 others:		
Toluene					
Trichloroacetic acid					
Triethyl Amine					
Trifluoroacetic acid					
Trimethylaniline					
TRIzol					
Uranyl Acetate					

◎物理性暴露 Physical exposure					
高溫 Heat	**Ever**	**Often**	**粉塵 Dust**	**Ever**	**Often**
滅菌爐 Autoclave			有機粉塵 Organic dust:_____		
Others_____			無機粉塵 Inorganic dust:_____		
低溫 Cold	**Ever**	**Often**	**同位素 Isotopes**	**Ever**	**Often**
冷房 Cool room(4℃)			125I		
冰箱 Freezer(-20℃)			Thinol131I		
冰箱 Freezer(-80℃)			133Cs		
液態氮 Liquid nitrogen			137Cs		
Others_____			Sulfuric acid13C		
噪音 Noise	**Ever**	**Often**	Tetramethylethylenediamine (TEMED)14C		
Vacuum Pump			Toluene15N		
超音波震盪器 Sonicator			Trichloroacetic acid18F		
紫外線 UV light			Triethyl Amine22Na		
雷射 Laser			Trifluoroacetic acid32P		
Nd-YAG Laser			Trimethylaniline33P		
人因危害 Ergonomics hazard	**Ever**	**Often**	TRIzol35P		
重複動作 Repetitive motions			35S		
搬重 Manual handling of heavy loads			36Cl		
不良姿勢 Awkward postures			3H		
震動 Vibration			45Ca		
光線不足 Insufficient lighting			51Cr		
Others_____			57Co		
輻射 Ionizing radiation	**Ever**	**Often**	63Ni		
Electron capture detector			85Kr		
Electron microscope			Others_____		
Gamma-irradiate					
Uranyl Acetate					
X-ray 分析儀 X-ray analyzer					
X-ray 繞射儀 X-ray diffractometer (XRD)					
加速器 Accelerator					
核反應爐 Nuclear reactor					
others_____					

Annex 3

Recommendation Form for Work Suitability Arrangements for Workers During Pregnancy and Within One Year After Childbirth

(To be completed by the occupational health service physician following evaluation.)

Assessment Results and Recommendations (Summary of Workplace Hazards)

□ Physical hazards: _____

□ Chemical hazards: _____

□ Biological hazards: _____

□ Ergonomic hazards: _____

□ Work-related stress / workplace violence: _____

□ Other: _____

Health Issues and Recommendations for Work Suitability Arrangements

1. Health issues
   - ☐ None; generally normal
   - ☐ Yes; please specify the diagnosis or symptoms/discomfort: _____
2. Management classification
   - ☐ First-level Management
   - ☐ Second-level Management
   - ☐ Third-level Management
3. Interview recommended
   - ☐ No; personal health management is advised.
   - ☐ Yes; please specify: _____
4. Recommendations for work suitability arrangements
   - ☐ May continue current work
   - ☐ May continue working, subject to the following restrictions or conditions:
     - ☐ (1) Change of workplace: _____
     - ☐ (2) Change of duties: _____
     - ☐ (3) Reduction of workload: _____
       - ☐ Reduction of working hours: _____
       - ☐ Reduction of work duties/assignments: _____
     - ☐ (4) Restriction on overtime (not to exceed _____ hours/day)
     - ☐ (5) Restriction on weekend or holiday work (_____ times per month)
     - ☐ (6) Restriction on business trips (_____ times per month)
     - ☐ (7) Restriction on night work (for shift workers) (_____ times per month)
   - ☐ Not fit to continue working; rest is recommended (recommended duration of leave/rest: _____)
   - ☐ Not fit to continue working; hospitalization for observation is required
   - ☐ Other specific work adjustments or lifestyle recommendations: _____

(Including detailed recommendations on work adjustment or reassignment, follow-up, workplace accommodations/response measures, diet, etc.)

Occupational Health Service Physician (including license number): Date of implementation: _____ / _____ / _____ (YYYY/MM/DD)
Occupational health service nurse to contact the employee for health consultation. ☐ The case is willing to attend an interview; the scheduled interview date is _____ / _____ / _____ (YYYY/MM/DD). ☐ The case is unwilling to attend an interview; reason: _____ Occupational Health Service Nurse: Date of implementation: _____ / _____ / _____ (YYYY/MM/DD)

Annex 4.

Interview Results and Recommended Measures for Maternity Health Protection Cases

<table>
<tr><td colspan="4">Interview Results</td></tr>
<tr><td rowspan="2">Name</td><td rowspan="2"></td><td>Unit (including research room/laboratory)</td><td></td></tr>
<tr><td>Female</td><td>Age: _____ years</td></tr>
<tr><td>Interview stage</td><td colspan="3">☐ During pregnancy (gestational age: _____ weeks)
☐ After childbirth (_____ months postpartum)
☐ Female worker of childbearing age engaged in lead-related work and classified as Second-level or Third-level Management</td></tr>
<tr><td>Workplace hazards and health issues</td><td colspan="3">Workplace hazards:
(Please refer to the Form for Workplace Hazard Assessment and Maternity Health Protection Measures.)
☐ First-level Management
☐ Second-level Management
☐ Third-level Management
Health issues:
(Please refer to the Self-Assessment Form on Health Conditions of Workers During Pregnancy and Within One Year After Childbirth.)
☐ None; generally normal
☐ Yes; measures under Item 4 shall be adopted</td></tr>
<tr><td colspan="4">Recommended Measures</td></tr>
<tr><td colspan="4">☐ Health education and guidance
☐ Guidance on precautions for female workers of childbearing age engaged in lead-related work who are classified as Level Two or Level Three Management
☐ Guidance on precautions during pregnancy
☐ Guidance on postpartum recovery or precautions during breastfeeding
☐ Abnormal health conditions identified; referral to a specialist physician for further health evaluation or diagnosis is required, followed by physician assessment
☐ Work suitability assessment: (please specify) _____
☐ Physician’s work suitability assessment and recommendations for work arrangements
(Please complete the Recommendation Form for Work Suitability Arrangements for Workers During Pregnancy and Within One Year After Childbirth.)
☐ Regular follow-up management and evaluation
☐ It is recommended that the employee visit the _____ outpatient clinic/department for appropriate evaluation and treatment.
☐ Other: (please specify) _____</td></tr>
</table>

Case Registration	☐ No; case closed ☐ Yes; continue follow-up: (Please fill in the recommended measures adopted.)
Follow-up	Follow-up after _____ day(s) / week(s) / month(s) (Scheduled date of next interview: _____ / _____ / _____)
Physician's name	Date: _____ / _____ / _____ (Date implemented: _____ / _____ / _____)
Nurse's name	Date: _____ / _____ / _____ (Date implemented: _____ / _____ / _____)

Annex 5.

Implementation Record Form for Maternity Health Protection

Implementation period: _____ / _____ / _____ to _____ / _____ / _____ (YYYY/MM/DD)

Implementation Items	Results (number of persons or percentage)	Remarks (improvement status)
Hazard Identification and Assessment	1. Physical hazards: 2. Chemical hazards: 3. Biological hazards: 4. Ergonomic hazards: 5. Work-related stress / workplace violence: 6. Other: 7. Risk level: 8. Method and date of hazard notification:	
Assessment of Protected Persons	1. Total number of female workers: _____ 2. Total number of female workers of childbearing age: _____ 3. Total number of pregnant female workers: _____ 4. Total number of female workers within one year after childbirth: _____ 5. Total number of breastfeeding female workers: _____	
Arrangement of Physician Interviews and Health Guidance	1. Number of persons requiring a physician interview: _____ (1) Completed: _____ (2) Not yet completed: _____ 2. Number of persons requiring observation or follow-up examination: _____ 3. Number of persons requiring medical treatment: _____ 4. Number of persons requiring health guidance: _____ (1) Received health guidance: _____ (2) Did not receive health guidance: _____ 5. Number of persons requiring referral for further evaluation: _____ 6. Number of persons requiring regular follow-up management: _____	
Work Suitability Arrangements	1. Number of persons requiring adjustment or reduction of working hours: _____ 2. Number of persons requiring reassignment or change of work duties: _____ 3. Number of persons requiring leave: _____ 4. Other: _____	

Evaluation and Improvement of Implementation Effectiveness	1. Rate of regular prenatal check-ups: _____ % 2. Achievement rate of health guidance or health promotion: _____ % 3. Environmental improvement status (environmental monitoring results): _____ 4. Other: _____	
Other Matters		

Appendix 1

Reference for Overview of Workplace Hazard Assessment

Type of Hazards	Risk levels		
	Level One	Level Two	Level Three
	No hazard	Possible hazard	Hazard
Physical hazards			
1. Width of work stair less than 30 cm.			
2. Possible impact or collision from falling or moving objects in the workplace (for example, fixed objects without seismic design).			
3. Work in areas where harmful radiation is dispersed (as defined by ionizing-radiation protection regulations).			
4. Exposure to noise work environments (TWA >= 85 dB).			
5. Exposure to high-temperature work environments.			
6. Casting, loading/unloading, carrying, or clearing hot minerals or slag.			
7. Work environments with significant temperature fluctuations and extreme temperature differences Work environments with significant temperature fluctuations and extreme temperature differences			
8. Work with significant vibration, such as rock drills, chain saws, riveters, or tamping machines.			
9. Work under abnormal pressure.			
10. Underground mineral exploration or mining			
11. Operation of cranes or derricks			
12. Operation of powered hoists, powered transport machinery, or cableways			
13. Rolling of rubber compounds and synthetic resins.			
14. Other:			

Chemical hazards			
Exposure to Category 1 reproductive toxicants under CNS 15030 (excluding chemicals already listed in Article 30, Paragraph 1, Subparagraph 5 of the Occupational Safety and Health Act).			
Exposure to Category 1 germ cell mutagens under CNS 15030 (excluding chemicals already listed in Article 30, Paragraph 1, Subparagraph 5 of the Occupational Safety and Health Act).			
Exposure to work environments where lead and its compounds are dispersed.			
Exposure to manufacturing or handling of antimitotic agents and cytotoxic drugs.			
Exposure to chemicals that adversely affect lactation and may harm infant health.			
Toxic chemicals that may be absorbed through the skin, including certain pesticides.			
Work in spaces containing carbon monoxide or other asphyxiating gases.			
Other:			
Biological hazards			
Exposure to work environments infected with Toxoplasma gondii.			
Exposure to work environments infected with rubella.			
Exposure to pathogenic or lethal microorganisms such as hepatitis B virus, varicella, hepatitis C virus, HIV, or tuberculosis.			
Other:			
Ergonomic hazards			
Work involving handling heavy objects above a certain weight.			
Difficult lifting or carrying postures, or repeated abnormal / unnatural postures.			
Repetitive work postures.			
Work postures limited by insufficient space (restricted movement or stretching space).			

Workstations not designed ergonomically and likely to cause musculoskeletal discomfort.			
Other:			
Work-related stress / workplace violence			
Shift work or night work.			
Frequent overtime or overseas travel.			
Working alone.			
Work prone to violent assault.			
Abnormal workload causing psychological tension or work stress, or inability to adjust working hours or leave.			
Other:			
Other			
Long periods of standing without seating available for rest.			
Long periods of sitting without freedom to stand up and walk around.			
Frequent changes in posture during work, such as moving from low to high positions.			
Other:			

Notes:

(1) Hazard types mainly refer to Article 30 of the Occupational Safety and Health Act and the Standards for Determining Dangerous or Harmful Work Prohibited for Pregnant and Postpartum Female Workers and Workers Under Eighteen Years of Age; each unit may supplement according to its own risks or characteristics.

(2) Under Appendix 1 of the Regulations for Worker Health Protection, special health-hazard operations involving maternity health hazards require hazard assessment and risk classification

Appendix 2

Reference Table for Risk Classification in Maternity Health Protection

Physical Hazards			
Hazard item	First-level Management	Second-level Management	Third-level Management
Noise	TWA < 80 dB	TWA 80-84 dB	TWA >= 85 dB
Ionizing radiation	For pregnant radiation workers, the employer shall immediately review working conditions so that the embryo or fetus receives the same dose limit as the general public, in accordance with the Ionizing Radiation Protection Safety Standards.		
Abnormal pressure work	-	-	Exposure to work in pressurized chambers or diving work
Chemical Hazards			
Hazard item	First-level Management	Second-level Management	Third-level Management
Lead work	Blood lead concentration below 5 μg/dL	Blood lead concentration >= 5 μg/dL and < 10 μg/dL	Blood lead concentration >= 10 μg/dL, or airborne lead / lead compounds concentration exceeding 0.025 mg/m3
Hazardous chemicals	-	Exposure to reproductive toxicants, germ cell mutagens, or chemicals adversely affecting lactation	Exposure to Category 1 reproductive toxicants or Category 1 germ cell mutagens
	Below one-tenth of the permissible exposure limit	At least one-tenth but below one-half of the permissible exposure limit	At least one-half of the permissible exposure limit or higher
	For maternity health-hazard chemicals without a permissible exposure limit, CCB or another scientifically equivalent assessment / management method may be used to evaluate exposure risk.		
Handling hazardous chemicals that exceed specified table values	-	-	

conc. / chemicals	permissible limit	
	ppm	mg/m3
carbon disulfide	5	15.5
trichloroethylene	25	134.5
ethylene oxide	0.5	0.9

			acrylamide		0.015
			aziridine	0.25	0.44
			arsenic and inorganic arsenic compounds		0.005

Biological Hazards			
Hazard item	First-level Management	Second-level Management	Third-level Management
Biological pathogens		Work involving exposure to rubella, hepatitis B, or varicella infection, where the worker has established immunity. Work involving exposure to hepatitis B, hepatitis C, or human immunodeficiency virus (HIV) infection, provided that the worker is not engaged in tasks involving a risk of exposure to blood or body fluids. Work involving exposure to tuberculosis infection, where a physician has assessed that it may affect the health of the mother, fetus, or infant.	Work involving exposure to toxoplasma infection. Work involving exposure to rubella infection, in a worker without immunity. Work involving exposure to hepatitis B, hepatitis C, or human immunodeficiency virus (HIV) infection, where the worker is engaged in tasks involving a risk of exposure to blood or body fluids. Work involving exposure to varicella infection, in a worker without immunity. Work involving exposure to tuberculosis infection, where a physician has assessed that it poses a hazard to the health of the mother, fetus, or infant.

Ergonomic Hazards			
Hazard item	First-level Management	Second-level Management	Third-level Management
Manual lifting, placing, pushing, pulling, carrying, or moving heavy objects	-	Manual lifting, placing, pushing, pulling, carrying, or moving heavy objects assessed as a moderate workload using a risk assessment tool (e.g., KIM), or as possibly affecting the health of the mother, fetus, or	Manual lifting, placing, pushing, pulling, carrying, or moving heavy objects assessed as a moderately high or high workload using a risk assessment tool (e.g., KIM), or as posing a hazard to the health of the mother, fetus, or infant as assessed by a physician.

<table>
<tr><td></td><td></td><td>infant as assessed by a physician.</td><td colspan="4"></td></tr>
<tr><td>Handling of heavy objects above a specified weight</td><td>-</td><td>-</td><td></td><td>During pregnancy</td><td>Less than 6 months after childbirth</td><td>6 months or more, but less than 1 year after childbirth</td></tr>
<tr><td></td><td></td><td></td><td>Weight / Type of work</td><td colspan="3">Regulatory limit (kg)</td></tr>
<tr><td></td><td></td><td></td><td>Intermittent work</td><td>10</td><td>15</td><td>30</td></tr>
<tr><td></td><td></td><td></td><td>Continuous work</td><td>6</td><td>10</td><td>20</td></tr>
<tr><td></td><td></td><td></td><td colspan="4">Note: Where maternity health protection measures have been adopted, the classification may be changed to Second-level Management.</td></tr>
<tr><td colspan="6">Other Hazards</td></tr>
<tr><td>Hazard item</td><td>First-level Management</td><td>Second-level Management</td><td colspan="3">Third-level Management</td></tr>
<tr><td>Dangerous or hazardous work specified in Subparagraphs 5 through 14 of</td><td>-</td><td>-</td><td colspan="3">Work involving any item listed in Appendix 2 or Appendix 3 of the Standards for Determining Dangerous or Hazardous Work Prohibited for Female Workers During Pregnancy and After Childbirth, and for Workers Under Eighteen Years of</td></tr>
</table>

Paragraph 1, or Subparagraphs 3 through 5 of Paragraph 2, of Article 30 of the Occupational Safety and Health Act			Age. Where maternity health protection measures have been adopted, such work may be reclassified as Second-level Management.

Note: Only selected hazard items are listed as references for recommended risk classification. In actual practice, the final classification should be based on the results of the individual case assessment.

Appendix 3

Category 1 Reproductive Toxicants or Germ Cell Mutagens Under the GHS Classification

項次	CAS. No.	中文名稱	英文名稱	建議 GHS 分類
1	109-86-4	乙二醇甲醚	2-methoxyethanol	R1
2	110-80-5	乙二醇乙醚	2-ethoxyethanol	R1
3	68-12-2	二甲基甲醯胺	N,N-dimethylformamide	R1
4	111-15-9	乙二醇乙醚醋酸酯	2-ethoxyethyl acetate	R1
5	7718-54-9	氯化鎳(Ⅱ)	nickel dichloride	R1、M2
6	110-71-4	乙二醇二甲醚	1,2-dimethoxyethane	R1
7	2451-62-9	三聚異氰酸三縮水甘油酯	1,3,5-tris(oxiranylmethyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione	M1
8	75-26-3	2-溴丙烷	2-bromopropane	R1
9	123-39-7	N-甲基甲醯胺	N-methylformamide	R1
10	96-45-7	伸乙硫脲	2-Imidazolidinethione	R1
11	96-24-2	3-氯-1,2-丙二醇	3-chloropropane-1,2-diol	R1
12	77-58-7	二月桂酸二丁錫	dibutyltin dilaurate	R1、M2
13	756-79-6	甲基膦酸二甲酯	dimethyl methylphosphonate	M1、R2
14	924-42-5	N-(羥甲基)丙烯醯胺	N-(hydroxymethyl)acrylamide	M1、R2
15	106-99-0	1,3-丁二烯	1,3-Butadiene	M1
16	10043-35-3	硼酸	boric acid	R1
17	85-68-7	鄰苯二甲酸丁苄酯	benzyl butyl phthalate	R1
18	115-96-8	磷酸三(2-氯乙基)酯	tris(2-chloroethyl) phosphate	M1、R2
19	625-45-6	甲氧基乙酸	methoxyacetic acid	R1
20	64-67-5	硫酸乙酯	diethyl sulfate	M1
21	75-56-9	1,2-環氧丙烷	methyloxirane	M1
22	106-94-5	1-溴丙烷	1-bromopropane	R1
23	872-50-4	N-甲基吡咯啶酮	1-methyl-2-pyrrolidone	R1
24	127-19-5	二甲基乙醯胺	N,N-dimethylacetamide	R1
25	75-21-8	環氧乙烷	ethylene oxide	M1、R1
26	117-81-7	鄰苯二甲酸二(2-乙基己基)酯	Di(2-ethylhexyl)phthalate	R1

27	1333-82-0	三氧化鉻	chromium trioxide	M1、R2
28	1330-43-4	四硼酸鈉	disodium tetraborate, anhydrous	R1
29	1303-86-2	三氧化二硼	diboron trioxide	R1
30	17804-35-2	免賴得(TW)；苯菌靈(CN)	Benomyl	M1、R1
31	10605-21-7	貝芬替	Carbendazim	M1、R1
32	10124-43-3	硫酸鈷	Cobalt sulfate	R1、M2
33	111-96-6	二乙二醇二甲醚	Diethyleneglycol dimethyl ether	R1
34	62-50-0	甲磺酸乙酯	Ethyl methanesulfonate	M1、R2
35	110-49-6	乙二醇甲醚醋酸酯	Ethylene glycol monomethyl ether acetate	R1
36	79-16-3	N-甲基乙醯胺	N-Methylacetamide	R1
37	629-14-1	乙二醇二乙醚	Ethylene glycol diethyl ether	R1
38	330-55-2	理有龍	Linuron	R1
39	13840-56-7	硼酸鈉鹽	Orthoboric acid, sodium salt	R1

Note: Reproductive toxicity is abbreviated as R; germ cell mutagenicity is abbreviated as M; hazard categories 1–3 are abbreviated as 1–3.

The substances and their hazard classifications listed in this table are selected based only on information currently available to the Occupational Safety and Health Administration (OSHA) for reference by employers. They do not cover all substances with reproductive toxicity or germ cell mutagenicity. When conducting hazard assessments, employers may refer to the classification results provided in the Safety Data Sheets (SDS) supplied by suppliers or manufacturers, or consult the following websites:

OSHA Taiwan GHS website: https://ghs.osha.gov.tw/CHT/masterpage/index_CHT.aspx

EPA Taiwan Toxic and Concerned Chemical Substances Query System: https://toxicdms.epa.gov.tw/Chm

Japan GHS website: https://www.nite.go.jp/chem/english/ghs/ghs_index.html

Germany GESTIS: https://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp

European Chemicals Agency (ECHA): https://echa.europa.eu/information-on-chemicals/