

# **Application of the present Chemical Risk Management System to Nano-materials**

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# Addressing the issue

## 1. The possibility of peculiar characteristic of nanomaterials' hazard

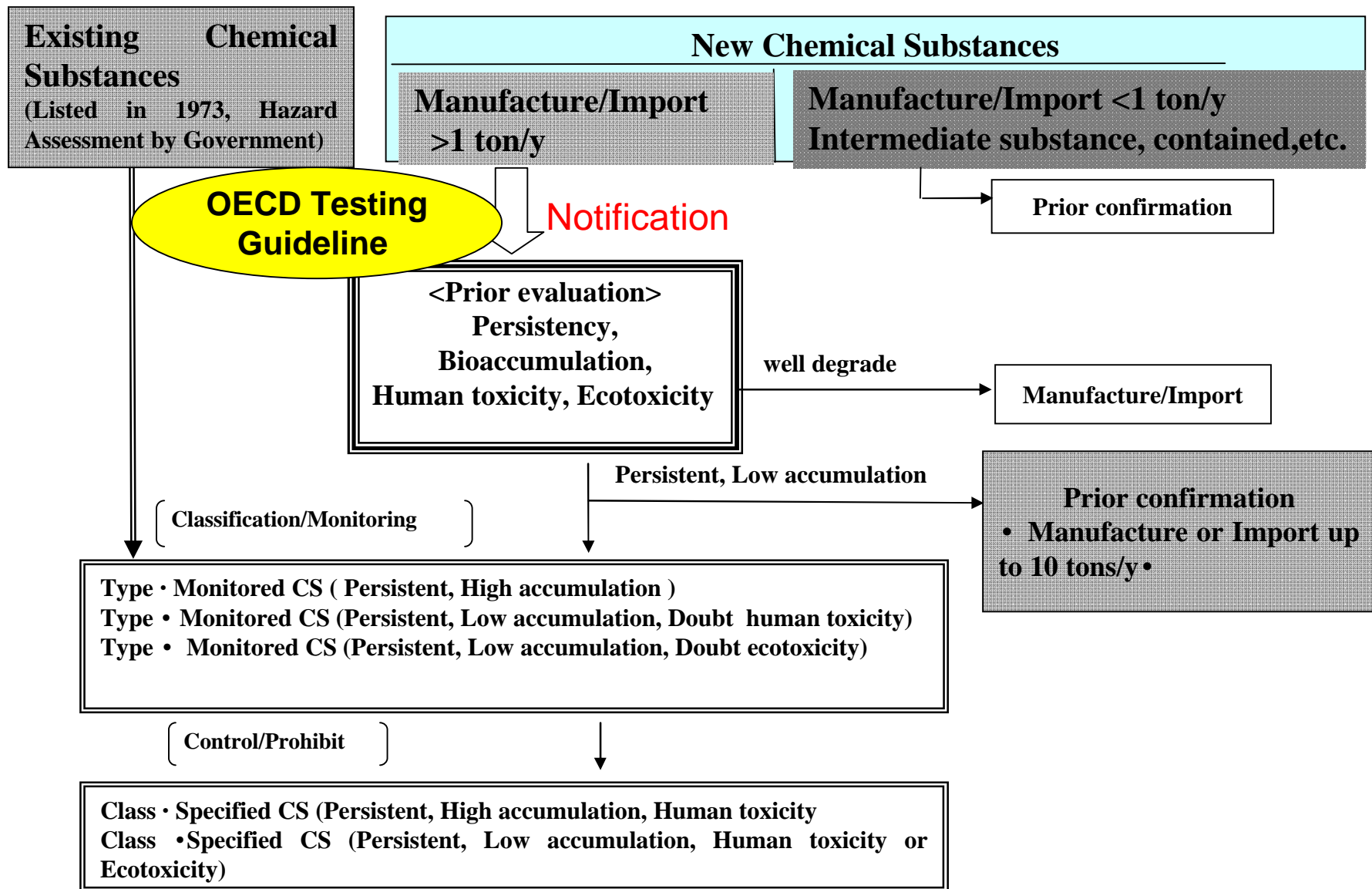
Several animal testing data indicate that nano particles have stronger toxicity than the larger size of corresponding chemicals of same chemical formula

## 2. Concerns about nanomaterials

## 3. Applicability of framework of existing hazard assessment and regulation

Wide range of options of regulation

# Ref. 1 Classification and Control System of Chemicals Substance Control Law (CSCL • Japan)



# Challenges of regulatory system

- Application to the nanomaterials •

## 1. Testing Methods

difficulty of dissolvent

dispersion of aggregates of primary substance uniformly

measurement of nano scale

Size-dependent risk is out of consideration

## 2. Notification based on weight

## 3. Limited area of New Chemical Substance notified and be assessed

Many nano materials are in the condition of small quantity exception.

## 4. Existing Chemicals

No evaluation for size-dependent risk

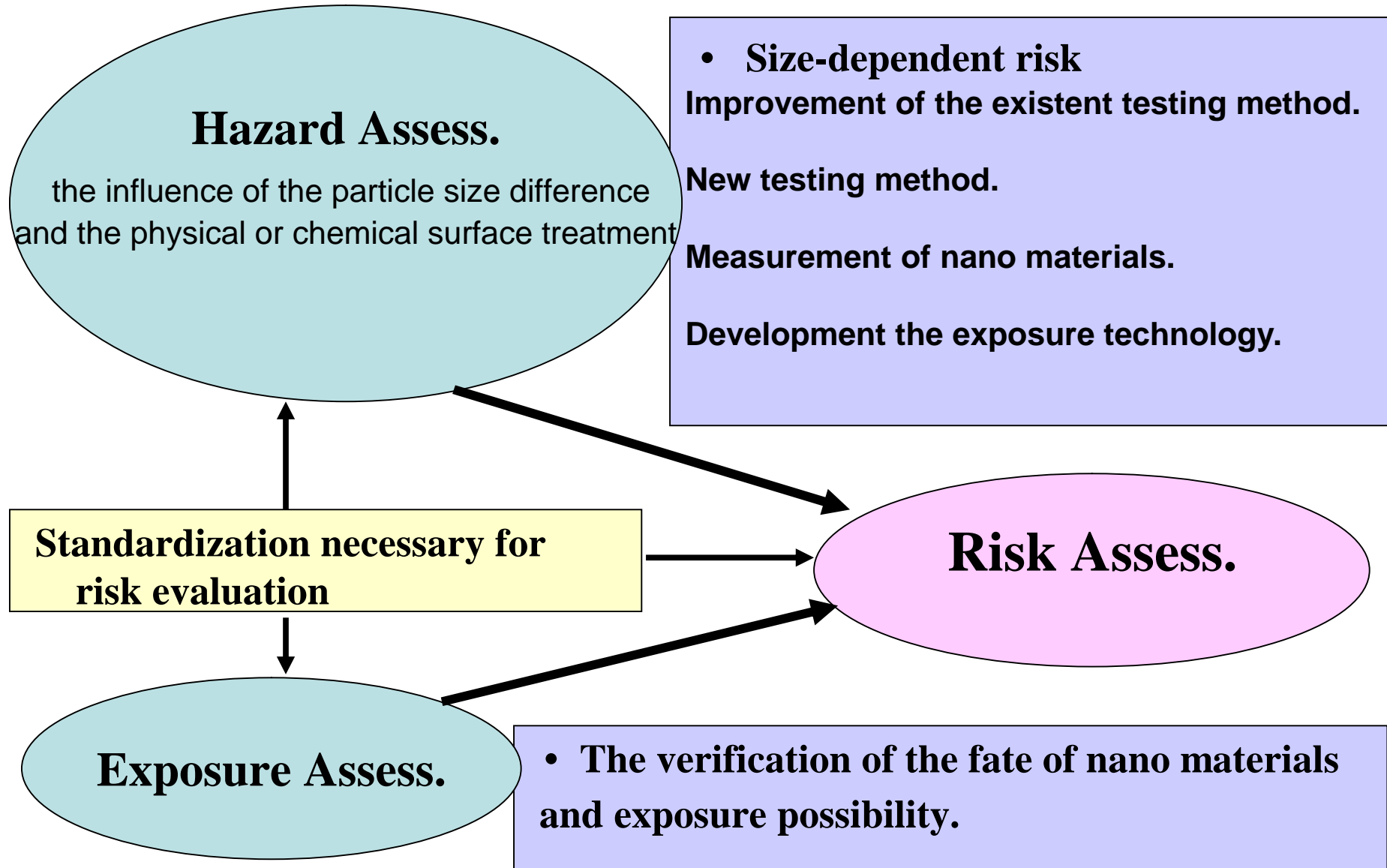
## 5. Less investment for nano safety compared to R & D activities;

# Key Questions:

1. Two frames of assessment for potential risk.
2. Recommendations identified by IRGC for Frame 1 nanostructures.
3. Who should take the lead in developing and implementing these critical risk management strategies?
4. And Who would need to initiate what kind of actions ?

# REF. 2 Application to the nano materials

## Risk Evaluation of Chemical Substance in Nano Scale



### REF. 3 Influence of nano materials on gene expression assessed by DNA chips:

Genome-wide exploration for gene expression provides accurate, sensitive, and massive data on thousands of parameters for assessment of biological responses.

