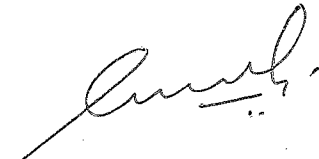
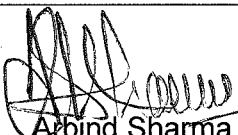
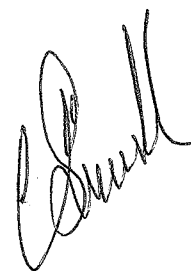
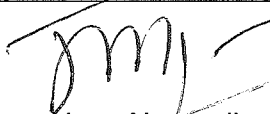



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TECHNICAL STANDARD (TS)

HAZARDOUS SUBSTANCES MANAGEMENT

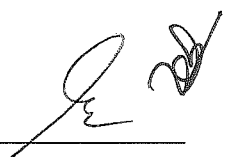
Prepared by	Reviewed and verified by	Authorized by
 M/s Chola MS Risk Services (Bhansodaya V) 09/02/2023	 Arbind Sharma (Project Head - Infrastructure)	 Santhosh Mundhada (Executive Director)
	 Jose Numpeli (Project Head - Downstream)	
	 22/02/2023 Samar Suri (Project Head - Upstream)	

20-02-23

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Document Change Note

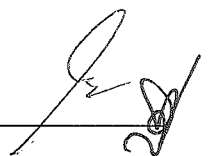
Rev. No	Rev. Date	Comments / Changes
00	5-12-2022	New Issue



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1 PURPOSE

The purpose of this procedure is to control the substances hazardous to health and to mitigate the effects on environment.

This is accomplished by ensuring –

- Assessing the hazards to workers and the environment
- Adequate controls to be in place for receipt, distribution, labelling, storage and use
- Communication of essential safety information to affected persons

2 SCOPE

This procedure shall apply to all AMNS project sites and related work areas including contractors to meet –

- Legal and regulatory requirements
- AMNS HSE requirements
- ISO 45001 and ISO 14001 standard requirements
- AMNS HSE Policy

3 DEFINITIONS AND ABBREVIATIONS

3.1 DEFINITIONS

Substance: Any natural or artificial material either in the form of solid, liquid, gaseous or vapor.

Hazardous substance: Any substance which is prescribed by a local regulatory agency as hazardous to health or the environment.

This can be –

- Dust of any kind, assigned by a local regulatory agency with an occupational exposure standard when present at a substantial concentration in air.
- A biological agent comprising any micro-organism which may cause an infection, allergy, or other hazard to health.
- A substance, which even if not prescribed in local regulations, recognised by the industry as a hazardous substance e.g. painting materials, chemical preparations, flushing materials, maintenance products, special project materials and one-time use chemicals, etc.

Health Hazard: A substance for which there is significant evidence that acute or chronic sickness may occur to exposed employees. These materials include carcinogens, toxic agents, reproductive toxins, irritants, sensitizers, corrosives.

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Physical Hazard: A substance for which there is evidence that it is a combustible / flammable or in compressed gas form, or an explosive, or having reactive property which can pose physical injury when they release in an un-controlled manner.

Material Safety Data Sheet (MSDS): This is an information sheet that a supplier of a substance is obligated to provide, which details the inherent hazards associated with the substance and the recommended control measures.

Permissible Exposure Limit (PEL): It is an approved maximum permitted exposure level to a substance in relation to a specified reference period (typically 8 hours). PEL/ MEL (Maximum Exposure Limit) is set for substances that may cause the most serious health effects, such as cancer and occupational asthma. Regulations typically require that exposure should be reduced as far below the PEL/ MEL as is reasonably practicable.

Threshold Limit Value (TLV) / Occupational Exposure Standard (OES): It is an approved standard for exposure to a substance in relation to a specified reference period (typically 8 hours). A TLV/ OES is set at a level at which (based on current scientific knowledge) there is no indication of risk to the health of workers who breathes it in day after day.

Short Term Exposure Limit (STEL): It is the maximum concentration to which a worker may be exposed for a maximum period of 15 minutes.

Flashpoint: The minimum temperature at which a liquid gives off a vapour in sufficient concentration to ignite under specific test conditions.

Explosive: A substance that causes a sudden release of pressure, gas and heat when subjected to sudden pressure, high temperature or shock.

Corrosive: A substance that causes visible destruction of, or irreversible alterations in, living tissue by chemical action at the site of contact.

Irritant: A substance that is not corrosive, but causes a reversible inflammatory effect on living tissue at the chemical site of contact.

Sensitizer: A chemical that causes people or animals to develop an allergic reaction in normal living tissue after repeated exposure.

Reactive: Substance that will vigorously decompose, polymerizes, or become self-reactive under conditions of shock, temperature or pressure.

Pyrophoric: A substance that will spontaneously ignite in air at a temperature of 100° F or below.

Combustible Liquid: A liquid with a flash point above 100° F -but below 200° F

Flammable Liquid: A liquid with a flash point below 100° F

Oxidizer: A substance that initiates or promotes combustion in other materials, causing fire by itself or through the release of oxygen or other gases.

Local Exhaust Ventilation (LEV) – A means of mechanically removing contaminated air from the workplace

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3.2 ABBREVIATIONS

SOR	- Safety Observation Report
HSEAR	- Hazardous Substance Exposure Assessment Record
HSIC	- Hazardous Substance Information Card
MSDS	- Material Safety Data Sheet
JSA	- Job Safety Analysis

4 RESPONSIBILITIES

Project Head

Project Head shall be responsible for the overall implementation of the Management of Hazardous Substances Program at the Project Sites.

HSE Department

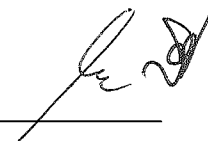
Responsible for the maintenance of Material Safety Data Sheets (MSDS) and files; provide information through training, safety meetings and safety signs/instructions. Responsible to determine the hazardous nature of the chemicals involved in various activities and proffer preventative action to be taken.

Warehouse / Stores/ Purchasing department

Responsible for ensuring all chemical materials received are accompanied with MSDS. The received material must follow MSDS safety instructions on transportation, labeling, storage and handling. All Copy of MSDS shall be forwarded to the HSE department.

Area Engineer/ Supervisor

Responsible for ensuring the personnel under his supervision are familiar with the hazardous nature of the material and precaution to be taken as per the MSDS. It is the responsibility of the Supervisor to ensure the correct protective clothing and equipment is used when handling hazardous substances as mentioned in respective HSIC and JHAs.



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5 DESCRIPTION

5.1 HAZARDOUS SUBSTANCE REVIEW AND APPROVAL

As much as feasible, the most appropriate substance(s) shall be used in operations, with respect to employee safety during use and storage, regulatory compliance, environmental concerns in the form of waste disposal.

Site Management shall ensure all potentially hazardous substances have been reviewed prior to use at the work site. The following minimum approval criteria shall be used:

- Evaluation and review with the help of site HSE personnel
- Receipt of all required safety/regulatory information at the site (including material safety data sheet (MSDS) and Technical data sheet if applicable)

Established substances as reasonably safe will be used. Any new substance to be introduced, the MSDS will be reviewed from HSE point of view and a specialist advice will be sought if necessary.

5.2 PURCHASING

Procurement of any hazardous substance which is new to the site from normal operations shall be notified to HSE department by purchasing department for review prior to placing order. Purchase department shall also provide the MSDS of the intended new substance to the HSE department for proper study.

5.3 RECEIVING HAZARDOUS SUBSTANCES

Designated storage points shall be provided and shall be stored only in their respective places up on receipt of hazardous substances.

Hazardous Substances received without a MSDS, without a label, or not on the approved list shall be secured and not distributed until the receipt of clearance from HSE department.

5.4 LABELLING

A labeling system shall be implemented. Stores in-charge shall ensure that all containers/packages are labeled with the following information as a minimum:

- Identity and contents of container
- Appropriate hazard warnings covering any physical and health hazards.

Labels shall be maintained legible and in good condition. Compliance to labeling requirements shall be verified during workplace inspections.

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5.5 STORAGE

The storage area shall be secured. All containers such as drums, cans and boxes shall be labeled as to their contents and their hazard type and degree. They shall be segregated according to types; and inspected regularly for leaks, damage, spills etc. Appropriate hazard symbols shall be displayed at every chemical storage/work site.

All chemical containers to be kept in a secondary containment (made of impermeable material). As a minimum requirement, the secondary containment shall be of 110% of the storage capacity of the chemical container.

5.5.1 BULK STORAGE

Properly designed and constructed storage facilities shall be provided for the bulk storage of hazardous substances. As a minimum all bulk storage areas shall be adequately sized and constructed to ensure:

- Spills and other potential emergency situations can be contained.
- Substances shall be stored in accordance with manufacturer's specifications

5.6 USE

It is the responsibility of the job Supervisor to ensure the correct protective clothing and equipment is used when handling various hazardous substances and also to incorporate hazards and precautionary measures in JSA.

Employees shall familiarize themselves with the hazards of the materials through the MSDS or HSIC (Hazardous substances information cards) or specific JSA and take the appropriate precautions and use necessary protective equipment to prevent exposure.

Material Safety Data Sheets shall be kept on file and be displayed at the work areas and storage areas. Workers shall be encouraged to read MSDS in files for more information about the chemicals they work with. MSDS information shall also be reviewed with employees during HSE meetings and toolbox meetings.

5.7 HAZARDOUS SUBSTANCE ASSESSMENT

Site Management shall ensure the hazards to employees and the environment associated with substances in use are assessed using HSEAR form. Steps shall be taken to ensure that the exposure of employees and the environment to hazardous substances is either prevented or, where this is not reasonably practicable, adequately controlled as recommended by HSIC.

Where potential chemical or biological hazards are identified, a detailed assessment must be conducted. As a minimum, this assessment will comprise a qualitative exposure assessment. This will be followed by a quantitative exposure monitoring where required.

Exposure to and breathing of fumes emitted from any materials shall be avoided by the wearing of respirators or full protective clothing and equipment in accordance with manufacturer's MSDS.

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5.8 HAZARDOUS SUBSTANCE DISPOSAL

Hazardous substance shall be disposed only through government authorized waste management company. They should be registered to collect and dispose of hazardous waste from domestic and commercial properties and so can provide all relevant and necessary certification.

The waste collection and disposal company should provide with a transfer note (as per the regulation), which should be signed by both parties.

5.9 MINIMUM PPE REQUIREMENTS

Head Protection	Helmet	Eye protection	Chemical goggles
Foot Protection	Steel toe safety shoes	Hand protection	Chemical gloves (neoprene)
Body Protection	Apron (PVC)		
Additional PPE shall be used as per MSDS			

6 TRAINING

Personnel responsible for handling of hazardous substances shall be trained on requirements specified in this procedure. Periodic update training shall be provided as needed.

All workers who handle, or could potentially be exposed to hazardous substances shall be trained on the requirements to dispense, label, handle, use, store, and dispose the substances.

All employees shall be informed and made aware of the use of chemicals and be trained on the exposure hazards and required protective equipment and precautions to be taken during induction and through regular Tool Box Talks.

7 RECORD KEEPING

Hazardous Substance records are located as follows:

S. No	HSE MS RECORD	MAINTAINED BY	RETENTION TIME
1.	MSDS, HSIC, HSAR	HSE Department	Until completion of project
2.	Exposure assessment	HSE Department	Until completion of project
3.	Training	HSE Department	Until completion of project

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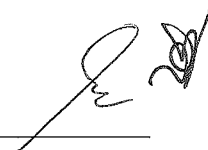
8 REFERENCE DOCUMENTS


S. No.	Format No.	Standard Name
1	AMNS/Project/SS/HSEM/03	Communication, consultation & participation
2	AMNS/Project/SS/HSEM/05	Training, awareness & competence
3	AMNS/Project/SS/HSEM/08	HIRAC
4	AMNS/Project/SS/HSEM/12	Emergency response preparedness

9 ANNEXURES









AMNS/Project/TS/HSEM/15/F01 - Hazardous Substance Exposure Assessment Record

AMNS/Project/TS/HSEM/15/F02 - Hazardous Substance Information Card



	ARCELOR MITTAL NIPPON STEEL INDIA LIMITED HAZARDOUS SUBSTANCE EXPOSURE ASSESSMENT RECORD	AMNS/Project/TS/HSEM/15/F01
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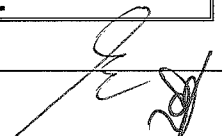
PROJECT/ CONTRACT:	
Hazardous Substance(s) Description:	
BRAND NAME	:
CHEMICAL COMPOSITION	:
CAS No./ UN CLASSIFICATION	:
MANUFACTURER/ SUPPLIER	:
EMERGENCY CONTACT No.	:
How it is used?	:
No. of employees involved in task	:

HAZARDS							
Corrosive	Harmful	Irritant	Toxic	Flammable	Extremely Flammable	Explosive	Harmful to the Environment
							
Description			YES/NO	Potential Exposures (delete as appropriate)			
Hazardous by inhalation?							
Hazardous by ingestion?							
Hazardous by absorption?							
Irritant to the eyes?							
Irritant to the skin?							
Harmful to the environment?							
Flammable? Explosive?							

EXPOSURE QUANTITY:	EXPOSURE DURATION:
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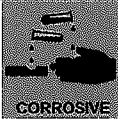



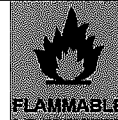



Describe Engineering Controls In Place (Enclosures, Ventilation, Extraction, etc.)			
If any of the following answers are Yes, please attach information to this form	N/A	YES	NO
1. Is manufacturers Material Safety Data Sheet (MSDS) available and attached?			
2. Has the 'lowest hazard' substance suitable for the job been selected?			
3. Has specific training required for handling this substance been provided?			
4. Has exposure monitoring been undertaken?			
5. Are additional control measures required?			
6. Is health surveillance necessary?			
7. Are Emergency Response Plans (first aid, fire, spill etc.) available and up to date?			
8. Have appropriate storage and dispensing requirements for the substance been provided?			
9. Does the substance need to be disposed of by an Authorised Waste Disposal Contractor?			
10. Is the substance contained in a local, national or international regulated list?			
11. Are all necessary permitting requirements understood and in place?			

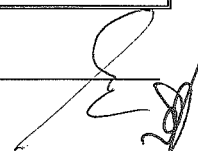
Prepared By:	NAME	SIGNATURE	Date:



AM/NS INDIA	ARCELOR MITTAL NIPPON STEEL INDIA LIMITED HAZARDOUS SUBSTANCE INFORMATION CARD	AMNS/Project/TS/HSEM/15/F02
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		Date: 05 Dec 2022
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PROJECT/ CONTRACT:	
Hazardous Substance(s) Description:	
BRAND NAME	:
CHEMICAL COMPOSITION	:
CAS No./ UN CLASSIFICATION	:
MANUFACTURER/ SUPPLIER	:
EMERGENCY CONTACT No.	:
How it is used?	:
No. of employees involved in task	:

HAZARDS							
Corrosive	Harmful	Irritant	Toxic	Flammable	Extremely Flammable	Explosive	Harmful to the Environment
							
HEALTH HAZARDS:							
ROOTS OF ENTRY	HAZARD SEVERITY			FIRST AID / REMEDIAL MEASURES			
Swallow							
Inhalation							
Contact with skin							
Contact with eyes							
OTHER HAZARDS:							
Flammability							
Explosive							
ENVIRONMENTAL HAZARDS:							
Spill release to water/ Ground/ Air							



Date: