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OCCUPATIONAL HEALTH & SAFETY

FRAMEWORK

for Leather & Allied Industries

"Effective Waste Management and Sustainable Development of MSME Tanning Companies in the Kolkata Leather Cluster " (Bantala)

Solidaridad

switchasia

Funded by the European Union

Netherlands Enterprise Agency

CLC TANNERS ASSOCIATION
(We Care for the Environment)

PISIE

dugros

Stahl

Solidaridad

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Sustainable Development Goal

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FOREWORD

Monika Khanna
Country Manager
Solidaridad - INDIA

The Leather industry in India accounts for around 13% of the world's leather production of hides/skins. The industry is known for its consistency in high export earnings, and it is among the top ten foreign exchange earners for the country.

Solidaridad started working in the leather clusters in India from 2017. Since then, we have witnessed industry's immense potential for employment generation. Leather industry provides livelihoods to over 4 million individuals, with a noteworthy 40% being women, many belonging to disadvantaged communities. Over the years, with our ongoing initiatives in Kanpur, Kolkata, and Chennai, we have observed that this immense potential is often overshadowed by the silent threat of occupational hazards within tanneries, impacting the health and lives of our valued workforce. Occupational diseases pose a severe threat to workers, not only inflicting immense suffering but also incurring a significant economic burden. Implementing preventive strategies and controlling exposure to hazards are fundamental to enhancing the overall well-being of all workforce members.

Recognizing this critical issue, Solidaridad launched an Occupational Health and Safety (OHS) framework specifically designed for Micro, Small, and Medium Enterprises (MSMEs). This framework empowers all stakeholders, from management/employers in identifying and controlling risks, to employees understanding their safety rights and participating in improvements – to create a safer, healthier working environment; and government to enforce regulations, provide training and support for industry compliance.

Join the Movement! Let us join hands, familiarize ourselves with the OHS framework and integrate its recommendations. Through collective action, we can ensure the leather industry's growth goes together with worker well-being.

MESSAGE

Tatheer Raza Zaidi
Asia Head,
Pollution Management in MSMEs,
Solidaridad Asia

Leather sector is one of the best examples on circularity treating the waste of others sector. This provides employment to millions of workers including women and also contributes significantly to the GDP of the country. This is one of the most water intensive sector hence also known on the pollution issues. Kolkata Leather Industry located at Bantala is globally recognized to produce unique Leather products like Industrial gloves, Ladies bags etc.

Solidaridad under its flagship program titled supported by the European Union got success to establish number of scientific innovations on water optimization; effluent reduction, usage of the solid waste into valuable products etc. and received number of recognitions at the prestigious national and international platforms. The partner includes Calcutta Leather Complex Tanners Association; PISIE-Italy; Stahl, Dugros.

Apart from the environmental issues, Occupational Health & Safety (OHS) is one of the most critical aspects need good attention and focus. Under the ambit of the European Union supported project, Solidaridad in collaboration with OHS-MCS got good success to focus on both- preventive and curative measures on Occupational Health & Safety. Under the occupational Health component, health and eye checkup camps are organized where the workers were capacitated to adopt the best practices. Under Occupational Safety, trainings were organized on the subject of First Aid Facilities; Hazards Identification; Fire Safety; proper usage of the Personal Protective Equipments etc. Workers are also connected on the most economical insurance schemes. All such work is institutionalized considering the long-term sustainability of the project.

Dr Ashish Mittal and team developed this meaningful Occupational Health & Safety framework aligned with difference processes of the Tanneries. The framework is the outcome of comprehensive research, teamwork and practical experience geared towards responding to unique occupational health and safety challenges experienced by the Bantala Leather Cluster. It takes into account all aspects of workplace safety ranging from handling physical hazards within the factory floor to promoting psychological and emotional wellbeing among employees. It is a significant milestone in our quest to create a culture of health, safety and wellbeing at the Bantala Leather Cluster.

We extend our deepest gratitude to the dedicated team of OHS-MCS, Solidaridad, and the CLC Tanners Association for their invaluable efforts in developing this essential document. This resource will significantly benefit our workforce by emphasizing health, safety, and well-being. By prioritizing these aspects, we not only fulfill our ethical responsibilities but also lay the groundwork for enduring success and prosperity in our tanneries.

We earnestly encourage all stakeholders, supervisors, and workers to wholeheartedly embrace this framework and actively engage in its implementation. Let us unite on this journey towards a shared vision of a safer, healthier, and more resilient future for the Bantala Leather Cluster.

MESSAGE

Pradipta Konar
Sr. Programme Manager,
Solidaridad Regional Expertise Centre

Occupational Health and safety (OHS) is a dynamic field encompassing the science of anticipating, identifying, evaluating, and managing workplace hazards that could compromise workers' health and well-being, while also considering potential impacts on surrounding communities and the environment.

This discipline is expansive, drawing upon a multitude of disciplines and addressing a wide array of workplace and environmental risks. Effective OHS management requires a comprehensive framework that integrates various structures, skills, knowledge bases, and analytical capabilities. This ensures the coordination and implementation of all essential components within national OHS systems, thereby safeguarding the health and safety of workers and the environment.

The leather industry, like many other industrial sectors, faces unique occupational health and safety (OHS) challenges that necessitate a comprehensive framework. This framework is crucial for several reasons. Firstly, the leather manufacturing process involves handling various hazardous substances, such as chromium salts, acids, and dyes, which can pose serious health risks to workers if not managed properly.

An OHS framework provides guidelines and protocols for safely handling these chemicals, reducing the risk of occupational illnesses and injuries. Secondly, the leather industry often involves manual labor and the operation of heavy machinery, which can lead to workplace accidents if not managed effectively. An OHS framework helps in identifying and mitigating potential hazards in the workplace, ensuring the safety of workers.

Additionally, the leather industry is known for its high levels of noise, dust, and heat, which can have adverse effects on workers' health if not controlled. An OHS framework provides standards for managing these environmental factors, protecting workers from related health issues such as hearing loss, respiratory problems, and heat-related illnesses.

In conclusion, an Occupational Health and Safety framework is essential for the leather industry to protect the health and well-being of its workers, reduce workplace accidents and illnesses, and ensure sustainable and responsible manufacturing practices.

MESSAGE

S. Rajasekaran
Sr. Consultant (OHS-MCS)

Dr. Ashish Mittal
Consultant Occupational Health (OHS-MCS)

When **Solidaridad, Kolkata** initiated the study and guidelines to the leather complex cluster in Kolkata towards the health and safety of the work force, it was largely visualized as the short term and long-term effects due to the chemical and biological human interface with the almost continuous physical contacts with the leather/ hide of various kinds and conditions. But when we started visiting and gathering data and information, that turned out to be a relatively small part of the possible danger to the health and safety of the work-force. Like any other industry, regular monitoring and periodic health inspections can address those aspects reasonably well if planned and carried out sincerely with commitment and due budget allocations. But various other safety and health hazards popped up which were never even realized as existing. Interestingly, most of them are fairly preventable, had there been some serious systematic study and analysis of the functioning of the leather related Industry.

These hidden hazards are mainly due to various aspects which are unique to each of the leather industry. In addition to the main process chain, these aspects cover the location, building structure, machineries, timings, dress code, culture, Male-female ratio, types and handling of waste, end products and the level of awareness on issues relating to safety. On top of all these, the lack of clarity relating to the various policies directly or indirectly lead to unsafe situations and end up forming the core rationale for any mishaps or near miss events. The pity is that most of them do not even realize that such ambiguity can serve as the potential root cause for severe health and safety issues.

Therefore, when this frame work was conceived, it was intended to help and guide any serious Top Management to draw his/her attention towards the various fundamental requirements and preparations towards a safe and healthy environment in any leather industry. In this exercise, **Solidaridad, Kolkata** took the challenge to interact and study the various aspects of leather industries by planning and co ordinating visits, meetings, training classes and necessary documentation guidelines. The expertise consultant of **Solidaridad, Kolkata** provided highly useful inputs relating to the various technical aspects of the leather industry. Based on all these, the Frame work, as it is here, is hoped to help the leather industry a long way in combatting issues relating to ***Occupational health and safety*** of human lives involved in such leather industry.

Abbreviations & Short forms used:

AMB	Ambulance
BH	Beam House
CH	Chemical
CR	Crusting
EPR	Emergency Preparedness and Response
ETP	Effluent Treatment Plant
FAB	First Aid Box
FE	Fire Extinguisher
FGL	Framework Guideline
FN	Finishing
FSP	Fire Safety Plan
GM	General Manager
GN	General Administration
LAB	Laboratory
PETP	Primary Effluent Treatment Plant
MD	Managing Director
MM	Middle Management (The area incharge directly reporting to TM)
MSDS	Material Safety Data Sheet
MT	Maintenance
OHS	Occupational Health & Safety
OMD	Operations Monitoring Diary
OP	Operation
PPE	Personal Protective Equipment
QP	Quality Policy
RW	Raw Hide
SOP	Standard Operating Procedure
SP	Safety Policy
TM	Top Management (The highest decision authority)
TN	Tanning
VIP	Very Important Person
WP	Work Permit
WW	Walk way

GENERAL INFORMATION ABOUT THE OHS FRAMEWORK

These guidelines serve as a comprehensive framework for ensuring the health and safety of workers in leather industry. Here are some key points to note about these guidelines:

General Compilation: These guidelines provide a general overview of the health and safety framework for leather industry. They are not specific to any particular industry but aim to cover common risks and hazards observed in the tanning process.

Indicative and Observational: The points listed are indicative and based on observation and experience. They are not exhaustive but aim to highlight potential risks and hazards inherent in the tanning process.

Chapter Structure: The guidelines are structured into individual chapters, each covering a specific topic. These chapters include descriptions of the role and responsibilities, tanning process etc. and the process tables are indicative of potential risk factors, chemicals and machines used, safety hazards, and the expected adverse effects on workers' health.

Focus on Risk Control: The focus of these guidelines is to emphasize the control of risks and hazards associated with each tanning process. The goal is to identify potential dangers and implement measures to mitigate them effectively.

Matrix Format: A simplified matrix format is provided to outline the applicability of the guidelines to each tannery unit. This helps ensure that the guidelines are relevant and tailored to the specific needs of each industrial unit.

Expectations from Management: The guidelines outline various expectations from management, middle management, and the workforce regarding health and safety practices. The notes provide guidance on roles and responsibilities at each level.

Advisory Nature: While these guidelines aim to guide leather industry towards improving health and safety, they are advisory in nature. Each tannery unit is expected to interpret and implement the requirements based on its unique context and surroundings.

GENERAL INFORMATION ABOUT THE OHS FRAMEWORK

Objective: The objective of these guidelines is to promote the health and safety of the workforce in leather tanning industry. They aim to create awareness about potential hazards and encourage proactive measures to mitigate risks.

Accountability: It's important to note that these guidelines are advisory and cannot be held accountable for any incidents or events arising from the omission or commission of safety precautions and practices. Each tannery unit is responsible for ensuring compliance with relevant safety regulations and standards.

Overall, these guidelines aim to support leather industry in creating safer work environments and protecting the health and well-being of their workers.

CHAPTER - 1

Overview

1.1 Introduction

Occupational Health and Safety (OHS) is of paramount importance in the leather industry, where workers are exposed to various hazards associated with the processing of raw hides into leather products. The nature of tannery operations involves the use of chemicals, machinery, and manual processes that pose potential risks to the health and safety of workers. Therefore, the establishment of a robust OHS framework is imperative to mitigate these risks and create a safe working environment for all personnel involved in tannery activities.

1.2 Scope of this framework

The scope of the Occupational Health and Safety (OHS) Framework for tanneries encompasses a wide range of activities, protocols, and considerations aimed at ensuring the health, safety, and well-being of individuals associated with tannery operations. The scope is comprehensive, covering various aspects within and around the tannery environment. This framework emphasis the role of top & middle management, managers, supervisors, foremen and all the workers who work or support the tannery work and operations and incorporates their role and ownership in safe work practices and safety culture, their active participation and commitment for the health and well-being of all the stakeholders.

This framework covers the broad guidelines whereby tanneries can practice the principles of occupational health and safety i.e. anticipation & recognition of the workplace hazards, evaluate these hazards, and eventually plan and control these hazards with an aim of continuous improvement of health and safety parameters in their respective units. It comprises a wide range of potential occupational exposures, across all the tannery operations including physical, chemical, biological, and ergonomic factors.

The guideline addresses the following aspects:

- The role of top management in providing a broader aspect on OHS for their respective units.
- The role of middle management in practice of this framework.
- The role of all other stakeholders in adherence to this framework.
- Sample standard operating procedure.
- Personal protective equipment matrix.
- Health surveillance matrix.




1.3 Purpose of this framework

The primary purpose of the OHS framework for tanneries is to safeguard the well-being of employees, contractors, and visitors by identifying, assessing, and managing occupational risks. The framework aims to integrate comprehensive safety measures into daily operations, ensuring the prevention of accidents, injuries, and occupational illnesses.

Implementing and following an Occupational Health and Safety (OHS) framework within an organization can bring numerous benefits:

Improved Employee Health and Well-being: By implementing robust OHS framework, organizations can significantly reduce the risk of workplace accidents, injuries, and illnesses. This leads to healthier and safer working conditions for employees, promoting their overall well-being and quality of life, which in turn boosts morale and productivity.

Reduced Absenteeism and increase in Turnover: Effective OHS framework can help minimize absenteeism and increase turnover rates by preventing workplace injuries and illnesses. When employees feel confident and have safety at work, they are less likely to fall sick or leave their jobs, more likely to remain with the organization, reducing the costs and hassles associated with recruiting and training new staff.

Accountability and Checks: Adhering to standard operating procedures on OHS and fixing the accountability and responsibility on the respective stakeholder improves the efficacy and performance of employees and workers across the organization especially down the production line, ultimately reducing the cost of the production and creating higher profit margins.

Compliance with Legal and Regulatory Requirements: Implementing OHS standards ensures compliance with relevant laws, regulations, and industry standards governing workplace safety. This protects the organization from legal liabilities, fines, and penalties while demonstrating a commitment to ethical business practices.

Readiness for international accreditation and certification: Implementing these guidelines will automatically improve the Organization's capabilities towards international accreditation and certification like ISO 45001:2018, Leather Working Group (LWG) etc. requirements.

Partnering in the United Nations Sustainable Development Goals (SDGs): Improving the health and well-being of workers, becomes the part of SDG 3 (Good health and well-being). It meets, directly and indirectly, many other goals, like "no poverty, zero hunger, gender equality, clean water and sanitation, decent work and economic growth, reduced inequalities, responsible consumption and production, and climate action". Such participation can be leveraged for good business and governance. These progressive organizations can also adopt and volunteer for BRSR (Business Responsibility and Sustainability Reporting).

Enhanced Reputation and Stakeholder Confidence: Organizations that prioritize employee health and safety build a positive reputation both internally and externally. This fosters trust and confidence among employees, customers, investors, and other stakeholders, leading to stronger relationships, an edge over competitors, and long-term business sustainability.

Cost Savings and Risk Reduction: By proactively identifying and mitigating workplace hazards, organizations can avoid accidents, workers' compensation claims, and property damage. Investing in preventive measures and safety initiatives ultimately leads to long-term cost savings and a reduction in risk.

Continuous Improvement Culture: Establishing a culture of continuous improvement in occupational health and safety fosters innovation and adaptability within the organization. Regular evaluation, feedback mechanisms, and corrective actions drive ongoing enhancements to safety protocols and practices, ensuring that the organization remains responsive to evolving risks and challenges.

Simple Implementation: These guidelines don't need special skills to implement. The existing team can be trained to follow them with a little help from experts.

Adhering to this guideline, industry can play a critical role in safeguarding the health of workers and creating a safer and healthier working environment for all.

The primary purpose of this framework is to:

- Facilitate the top management to create safe culture and commitment from top;
- Enhance the capacity of managers / safety personnel for ensuring the safe work practices
- Standardize the level of occupational health and safety in tannery industry across the country.
- Improve the quality and productivity of the industry by preventing the accidents and occupational diseases.
- Improve the compliance to the labour laws and maturing the industry to adopt the standard management principles and lead to international ISO certifications.

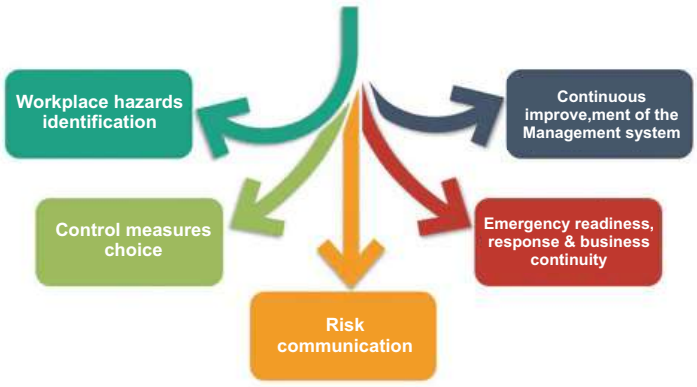
1.4 Legislation Requirement for leather tannery industries

In India, the occupational health and safety (OHS) standards for tanneries are governed by various laws and regulations. The primary legal requirements related to occupational health and safety in the tannery industry include:

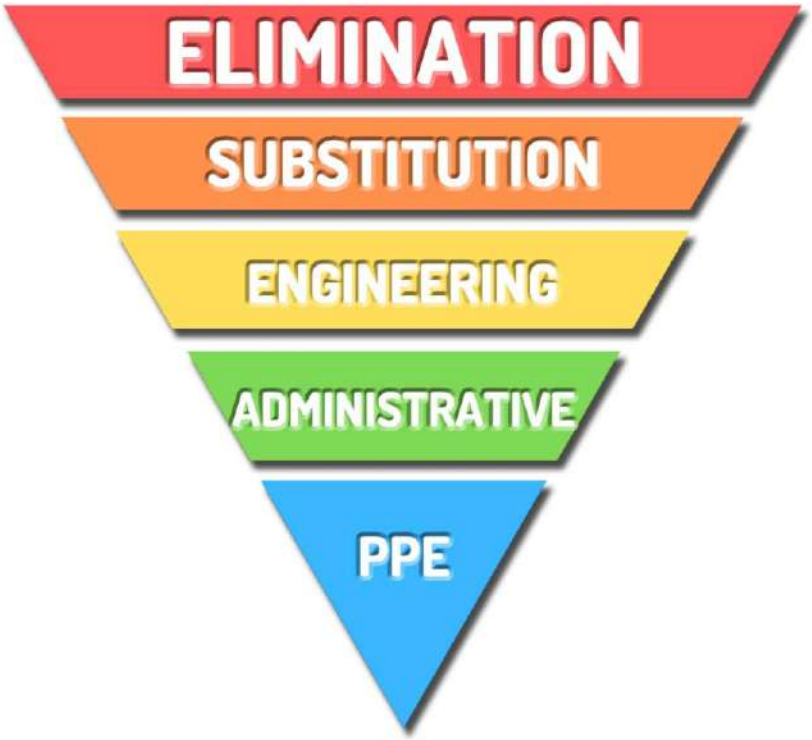
- The Factories Act, 1948 is a key piece of legislation that lays down the provisions for the health, safety, and welfare of workers in factories, including tanneries. It covers aspects such as ventilation, temperature, lighting, cleanliness, and other working conditions.
- The Environment (Protection) Act, 1986 empowers the central government to take measures to protect and improve environmental quality. Tanneries, being potential sources of environmental pollution, are subject to regulations under this act. The act includes provisions related to the management and treatment of industrial effluents.
- The Water (Prevention and Control of Pollution) Act, 1974, aims to prevent and control water pollution. Tanneries are required to obtain consent for the discharge of effluents into water bodies, and the act establishes standards for the quality of water discharged.
- Similar to water pollution control, the Air (Prevention and Control of Pollution) Act, 1981 addresses air pollution issues. Tanneries are required to comply with standards for air emissions, and obtaining consent for air emissions is a legal requirement.

- Chemicals (Management and Handling) Rules, 1989 under the Environment (Protection) Act, regulate the handling, storage, and transportation of hazardous chemicals. Tanneries often use chemicals in the tanning process, and compliance with these rules is essential.
- The Leather and Leather Manufactures (Regulation of Production) Act, 1986 is specific to the leather industry, including tanneries. It regulates the production of leather and leather products and include provisions related to health and safety.
- The Leather and Leather Goods (Working Conditions) Rules, 1995 prescribe the working conditions in the leather industry, covering aspects such as ventilation, temperature, lighting, cleanliness, and safety measures.
- Occupational Safety, Health, and Working Conditions Code, 2020 is a comprehensive piece of legislation that consolidates and amends several labor laws, including those related to occupational safety and health (The Factories Act and others). It covers aspects such as working conditions, welfare facilities, and safety measures in the workplace. This code is yet to be notified formally after framing of rules by the states.

It's important for tanneries to be aware of and comply with these legal requirements to ensure the health and safety of its workers, protect the environment, and maintain regulatory compliance. Additionally, state-specific rules and regulations may also apply; so, it's advisable to consult local regulatory authorities and legal experts for the most accurate and up-to-date information.



HIERARCHY OF HAZARD CONTROLS



CHAPTER - 2

Generic Tanning Operations (A Flow Diagram)

Generic Tanning Operations (A Flow Diagram)

A flow diagram for tanning operations involves outlining the step-by-step process that raw hides or skins undergo to become leather. While the specific processes can vary based on the type of tanning method (vegetable, chrome, etc.), and the desired characteristics of the final leather product, here's a generalized flow diagram for tanning operations:

RAW SECTION

- **Unloading of raw hides** : Unloading of Raw hides & dumping them in storing area
- **Trimming/cutting** : Trimming the edges of the hide using a knife/ cutter
- **Raw hide storing** : Storing Raw hides; Sweeping out lose salt spills
- **Desalting** : Brush off excess salt; Sweep out salt spilling, maintain desalting machines

BEAM HOUSE

- **Soaking** : Rehydration of hide in drum or paddle
- **Liming** : Drum / Paddle process for removing the hair/ swelling etc.
- **Fleshing** : Fleshing of limed pelt using fleshing machine under controlled continuous water flow to cut extra flesh.

TANNING SECTION (Drum Operations)

- **De-liming** : Brining the pH value in neutral level in drum
- **Bating** : Bating done with enzyme in drum for opening the fibers
- **De-greasing** : Drum process to remove fatty acid (fats) form hides
- **Pickling** : Pickling to decrease pH through acid & salt as needed in drum prior to tanning
- **Tanning** : Hides are turned into non putrefiable leather by tanning process in drums

CRUSTING SECTION

- **Samming** : Samming is done to bring down the moisture
- **Splitting** : Wet blue is splited as per thickness requirement by splitting machine
- **Shaving** : Shaving machine is used to obtain required thickness accurately
- **Wet end operations** : Chemical treatment is done in drums to make crust for final use
- **Setting** : The crust is flattened in the setting machine
- **Vacuum Drying** : Is done by temperature and vacuum system to get absolute flattening & drying of the leather (upto 70% to 80%)
- **Hang Drying** : Hanging is done for complete drying either on a moving conveyor or normal hanging.

FINISHING SECTION

- **Spray (Hand/Auto)** : Colour coating as required
- **Padding** : colour, oil or wax coating is done as required
- **Roller coating** : Colour, oil or wax coating is done using rollers
- **Hydraulic Press** : Is done for embossing / ironing
- **Ironing Machine** : For embossing or ironing using Roto press
- **Drying of leather** : Drying in hot chamber / conveyor
- **Dry Drumming / Milling** : Is done to get required softness
- **Finish leather Selection & trimming** : Is done as per requirement
- **Measuring and Packing :** Is done as per requirement

Common general activities across all the tanning processes.

Warehouse (Chemical, Mechanical & Others), Quality control Maintenance (Electrical, Mechanical & Others) Laboratory, PETP, Waste Disposal, Genset, Boiler, Lift, Parking etc.

CHAPTER - 3

Steps to Prepare and Implement OHS Framework

Steps to Prepare and Implement OHS Framework

Using the Leather Industry OHS Framework involves several key steps to ensure effective implementation and adaptation to the specific needs of each leather industry. Here's a simple step by step guide to how to use the framework:

Preparation and Assessment: Before implementing the framework, the top management should gather relevant information about the specific characteristics of their leather industry. This includes details such as building structures, machinery, chemicals used, past accident history, workforce demographics, types of finished products, and unique operations involved.

Identify Operations: List out the various operations involved in the leather industry, including manufacturing processes, handling of materials, and other relevant activities.

Refer to Framework Tables: Use the framework tables provided to address the specific needs of top management, middle management, and the workforce. Each table will outline the requirements and guidelines relevant to each level of management.

Assess Gaps: For each operation, assess the existing safety measures and identify any gaps between the requirements outlined in the framework and the current practices in the industry. Document any policies that are not formally documented and address any deficiencies.

Fill Gaps and Document Policies: Fill the identified gaps in safety measures and document any policies that are missing or need improvement. This may involve updating procedures, implementing new safety protocols, and ensuring that all relevant policies are documented.

Training and Communication: Communicate the updated safety policies and procedures to all employees, providing training as necessary to ensure understanding and compliance. Consider the cultural context, understanding levels, and past history of incidents when delivering training.

Enforce and Monitor: Monitor compliance with safety policies and procedures regularly, conducting audits and inspections to identify areas for improvement. Record incidents, near misses, and any deviations from safety protocols, and take appropriate corrective actions.

Establish Accountability: Clearly define responsibility and accountability for safety at all levels of the organization. Delegate authority where necessary but ensure that all individuals understand their roles and obligations in maintaining a safe work environment.

Develop a Safety Culture: Foster a culture of safety among employees over time by promoting adherence to rules and procedures, rewarding compliance, and addressing any general difficulties or concerns promptly.

Leadership Commitment: Top management should lead by example by following safety rules and demonstrating a commitment to workplace safety. Ensure that decision-making authorities are well-known and that safety policies are documented and enforced consistently.

By following these steps and incorporating the Leather Industry Safety Framework into their operations, leather industry businesses can improve safety standards, reduce accidents and injuries, and create a safer working environment for all employees.

CHAPTER - 4

Roles and Responsibilities of the Organisation

The Role of top management in OHS framework

The role of top management in implementing and sustaining an effective Occupational Health and Safety (OHS) framework for tanneries is crucial. Leadership commitment and involvement play a significant role in shaping the organizational culture, ensuring compliance with regulations, and promoting a safe working environment. Here are key aspects of the role of top management in an OHS framework for tanneries:

1. Policy Development and Communication:

Develop OHS Policies: Establish clear and comprehensive OHS policies that reflect the commitment of the organization to workers' health and safety.

Communicate Policies: Ensure effective communication of OHS policies to all levels of the organization, emphasizing the importance of compliance.

2. Commitment to Compliance:

Stay Informed: Keep abreast of relevant OHS regulations, standards, and best practices applicable to tannery operations.

Enforce Compliance: Ensure that the organization complies with all applicable regulations and promote a culture of strict adherence to OHS standards.

3. Resource Allocation:

Allocate Resources: Provide the necessary resources, including financial, human, and technological, to support the implementation and maintenance of the OHS framework.

Invest in Training: Allocate resources for ongoing OHS training and awareness programs for employees at all levels.

4. Leadership by Example:

Demonstrate Commitment: Lead by example to demonstrate a commitment to OHS, reinforcing the importance of safe work practices.

Active Participation: Participate in safety programs, inspections, and audits to emphasize the significance of OHS to all employees.

5. Employee Involvement:

Encourage Participation: Encourage and facilitate the active involvement of employees in OHS initiatives, including safety committees and hazard reporting.

Recognize Contributions: Acknowledge and recognize efforts and contributions to safety from all levels of the organization.

6. Performance Monitoring and Review:

Establish Metrics: Define key performance indicators (KPIs) to measure the effectiveness of the OHS framework.

Regular Review: Conduct regular reviews of OHS performance, incidents, and near misses, and use the findings for continuous improvement.

7. Integration with Business Processes:

Incorporate OHS in Planning: Ensure that OHS considerations are integrated into strategic planning, decision-making processes, and new project initiatives.

Risk Assessment: Incorporate OHS risk assessments into business processes to proactively identify and mitigate potential hazards.

8. Communication Channels:

Open Communication: Establish open communication channels for reporting safety concerns, incidents, and suggestions.

Feedback Mechanisms: Implement mechanisms for providing feedback to employees regarding the resolution of safety concerns and improvements.

9. Crisis Management and Emergency Response:

Emergency Planning: Develop and oversee emergency response plans, ensuring that top management is involved in crisis management.

Regular Drills: Conduct regular emergency response drills to test the effectiveness of plans and identify areas for improvement.

10. Continuous Improvement:

Promote a Learning Culture: Foster a culture of continuous improvement, where lessons learnt from incidents are used to enhance safety measures.

Investigate Incidents: Ensure thorough investigations of incidents and near misses, identifying root causes and implementing corrective actions.

11. External Engagement:

Stakeholder Collaboration: Collaborate with external stakeholders, such as regulatory bodies, industry associations, and communities, to share best practices and address common challenges.

Top management's commitment to occupational health and safety is fundamental to creating a workplace culture that prioritizes the well-being of employees in tanneries. Their leadership sets the tone for the entire organization and influences the success of the OHS framework in preventing accidents and promoting a safe and healthy working environment.

The Role of middle management in OHS framework

Middle management plays a pivotal role in the effective implementation and maintenance of an Occupational Health and Safety (OHS) framework for tanneries. They act as a bridge between top management and front-line workers, translating policies into practical actions, and ensuring day-to-day compliance with safety protocols. Here are key aspects of the role of middle management in an OHS framework for tanneries:

1. Policy Implementation:

Translate Policies: Ensure that OHS policies set by top management are effectively translated into actionable plans and procedures for daily operations.

Supervise Compliance: Oversee and enforce compliance with safety policies and procedures on the shop floor.

2. Training and Development:

Facilitate Training Programs: Coordinate and facilitate OHS training programs for employees, emphasizing safe work practices and the proper use of protective equipment.

Skill Enhancement: Identify specific skill gaps and provide ongoing training to enhance the safety competencies of the workforce.

3. Risk Assessment and Mitigation:

Participate in Risk Assessments: Actively participate in hazard identification, risk assessment, and mitigation processes.

Implement Control Measures: Ensure that appropriate control measures are implemented to mitigate identified risks

4. Communication Channels:

Promote Open Communication: Foster open communication channels for employees to report safety concerns, incidents, or suggestions.

Feedback Loop: Establish a feedback loop between top management and front-line workers regarding safety issues and improvements.

5. Supervision and Monitoring:

Regular Supervision: Conduct regular safety inspections and supervise work processes to ensure adherence to safety protocols.

Monitor Work Practices: Continuously monitor work practices to identify and address unsafe behaviours or conditions.

6. Emergency Preparedness:

Ensure Awareness: Guarantee that employees are aware of emergency response plans and procedures.

Drill Participation: Organize and participate in emergency response drills to evaluate preparedness and identify areas for improvement.

7. Incident Investigation:

Conduct Investigations: Lead or participate in the investigation of incidents and near misses, identifying root causes and implementing corrective actions.

Documentation: Ensure accurate and comprehensive documentation of incidents and corrective measures.

8. Resource Allocation:

Advocate for Resources: Advocate for necessary resources to support OHS initiatives, including equipment, training materials, and personnel.

Efficient Resource Use: Ensure efficient use of allocated resources to maximize safety benefits.

9. Promoting Safety Culture:

Lead by Example: Demonstrate a commitment to safety by adhering to safety protocols and promoting a positive safety culture.

Encourage Reporting: Encourage and reward reporting of near misses, incidents, and positive safety behaviours.

10. Performance Metrics:

Monitor KPIs: Keep track of key performance indicators related to safety and report regularly to top management.

Continuous Improvement: Use performance metrics to identify areas for improvement and implement corrective actions.

11. Employee Engagement:

Involve Employees: Involve employees in safety initiatives, committees, and decision-making processes.

Recognize Contributions: Recognize and appreciate contributions to safety made by employees at all levels.

12. Training Evaluation:

Evaluate Training Effectiveness: Assess the effectiveness of OHS training programs and make adjustments as needed.

Feedback Mechanism: Establish a feedback mechanism for employees to provide input on the relevance and effectiveness of training.

Middle management serves as a critical link in the chain of OHS responsibilities, ensuring that the overarching goals set by top management are effectively implemented and sustained at the operational level. Their active involvement in training, supervision, and communication is vital for creating a safe working environment in tanneries.

The Role of workers in OHS framework

Workers play a crucial role in the Occupational Health and Safety (OHS) framework for tanneries. Their active participation, adherence to safety protocols, and commitment to reporting hazards contribute significantly to creating a safe and healthy workplace. Here are key aspects of the role of workers in an OHS framework for tanneries:

1. Adherence to Safety Procedures:

Follow Protocols: Adhere to established safety protocols, including the proper use of personal protective equipment (PPE) and following safe work practices.

Participate in Training: Actively engage in OHS training programs to understand the importance of safety measures and procedures.

2. Hazard Reporting:

Report Hazards: Promptly report any unsafe conditions, hazards, or near misses to supervisors or designated safety personnel.

Use Reporting Systems: Utilize established reporting systems and channels to communicate safety concerns.

3. Equipment and PPE Usage:

Proper Equipment Use: Use machinery and equipment according to guidelines and safety instructions.

Wear PPE: Wear the prescribed personal protective equipment at all times when engaged in tasks that pose potential risks.

4. Participation in Safety Committees:

Join Safety Committees: Actively participate in safety committees or similar forums to discuss safety concerns, share insights, and contribute to safety initiatives.

Voice Opinions: Express opinions and suggestions related to OHS during safety committee meetings.

5. Emergency Response:

Follow Emergency Procedures: Familiarize themselves with emergency response procedures and follow them in the event of accidents or emergencies.

Participate in Drills: Actively participate in emergency response drills to ensure preparedness.

6. Continuous Learning:

Stay Informed: Stay informed about safety regulations, guidelines, and any updates related to occupational health and safety.

Attend Training Sessions: Attend continuous education and training sessions to enhance safety knowledge and skills.

7. Safe Material Handling:

Follow Guidelines: Follow proper guidelines for the handling, storage, and disposal of materials, particularly hazardous substances.

Report Spills: Report any spills or leaks promptly to prevent environmental contamination.

8. Health Monitoring:

Participate in Health Screenings: Engage in health screenings and check-ups as part of health monitoring programs.

Report Health Concerns: Report any health issues or symptoms related to work activities promptly.

9. Feedback and Communication:

Provide Feedback: Offer constructive feedback on the effectiveness of safety measures and communication strategies.

Engage in Communication: Actively engage in safety-related communications and meetings

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10. Preventive Measures:

Identify Hazards: Actively participate in identifying potential hazards and suggest preventive measures.

Promote a Safety Culture: Promote a safety culture by encouraging co-workers to prioritize safety in all aspects of their work.

11. Active Participation in OHS Initiatives:

Participate in Safety Programs: Actively participate in safety programs, campaigns, and initiatives organized by the company.

Promote Safety Values: Help promote and reinforce safety values within the workplace.

12. Reporting Incidents and Near Misses:

Immediate Reporting: Immediately report any incidents, injuries, or near misses to supervisors or designated personnel.

Provide Details: Provide detailed information regarding incidents for thorough investigation.

13. Understanding and Using Safety Signs:

Recognize Signs: Understand and recognize safety signs and symbols within the workplace.

Adhere to Signage: Follow instructions provided by safety signs to ensure safe practices.

Workers' involvement is vital in creating a safety culture within the tannery, fostering a collaborative environment where everyone is committed to maintaining a secure workplace. By actively participating in training, reporting hazards, and following safety protocols, workers contribute significantly to the success of the OHS framework and the overall well-being of the workforce.

CHAPTER - 5

Tannery processes and OHS

TANNERY PROCESS : RAW HIDE SECTION

5.1	SN	Processes	Brief Description	Possible risk factors	Safety Hazards	Health Effects
RAW HIDE SECTION	5.1.1	**UNLOADING OF RAW HIDES**	Unloading of raw hides from incoming trucks and to stack them in the raw hide store / area; mostly this operation done manually	Exposure to microorganisms / salt; carrying excessive weight repeatedly; inappropriate arrangements to get in / out of motor vehicles; use of forklifts	Motor Vehicle Accidents, Manual handling of raw hides (lifting excess weights more than the prescribed limits), uneven, slippery surfaces leading to falls / slips, low visibilty due to piling of hides blocking the vision	Possibility of skin effects, respiratory problems, eye injuries with foreign bodies, minor or major injuries, injuries / illness of muscles and joints
	5.1.2	**Trimming & Cutting**	Manually tanning the hide removing the non-uniform / defective parts, using sharp hand held blades	Exposure to microorganisms / salt; sharp blades, knives, cutters or other equipment	Repititive movements of upper body (arms, torso) to lift and cut hides, uneven / slippery surfaces leading to falls / slips	Possibility of skin effects, respiratory problems, eye injuries with foreign bodies, minor or major injuries, injuries/illness of muscles and joints
	5.1.3	**Raw Hide storing**	Stroing the raw hides at designated places, sweeping of excess / spills of salt on floor	Exposure to microorganisms / salt; carrying excessive weight repeatedly	Repititive movements of body to lift hides, uneven / slippery surfaces leading to falls / slips	Possibility of skin effects, respiratory problems, eye injuries with foreign bodies, minor or major injuries, injuries / illness of muscles and joints
	5.1.4	**Desalting**	The Raw hide is fed through a brush type or mechanical salt shaker machine, removing the excessive salt	Exposure to microorganisms / salt; carrying excessive weight repeatedly; ungaurded moving machine parts, trolley / forklifts	Repititive movements of body to lift hides, uneven / slippery surfaces leading to falls / slips, machine noise and vibrations	Possibility of skin effects, respiratory problems, eye injuries with foreign bodies, minor or major injuries, skin abrasions, Noise induced hearing loss (NIHL), Neurological effects of the vibrations, injuries / illness of muscles and joints

Control

Top Management must make appropriate policies and SOP's for safe work practices like parking policy and procedure, appropriate training of supervisors and workers, preventive and regular civil, machine, equipment repairs and maintenance, adequate lighting and ventilation and use of appropriate personal protective equipments, regular audits, review and improvements of the work processes.

The role of middle management is mainly to supervise day to day activities, monitoring & reporting of the work and of any incidences, labour training on good workplace practices - mainly on manual material handling, safety and PPE's, making workers understand the importance of safe practices, first aid, emergency response, participation in mock drills etc.

Workers must understand and adhere to the instructions and guidelines, follow the work practices, use PPEs as per the training and requirement, regularly report incidents / events and practical issues to the middle management / supervisor.

TANNERY PROCESS : BEAM HOUSE

5.2	SN	Processes	Brief Description	Possible risk factors	Safety Hazards	Health Effects
BEAM HOUSE	5.2.1	**Soaking**	Hides are soaked in clean water in Paddle and drum operations, to get rid of any dirt, dung, salt, blood, etc. Paddles continuously rotate the hides in water.	Chemicals such as surfactants, emulsifiers, Na2S, preservatives. Machines like rotary paddles (with gear/chain trasferred power), green fleshing machine for heavy hides etc., microorganisms, electricity	Repititive movements of body to lift hides, uneven / wet & slippery surfaces leading to falls / slips, splashes of water and chemicals, contact with and inhalation of chemicals, machine noise and vibrations, electric hazards	Possibility of skin effects, respiratory problems, minor or major injuries, skin abrasions, Noise induced hearing loss (NIHL), Neurological effects of the vibrations, injuries / illness of muscles and joints, electric injuries
	5.2.2	**Liming**	As one of the pre tanning operations, liming is done either in PIT or Paddle or Drums, where the hair and flesh are removed from the hide, in highly alkaline conditions.	Chemicals such as Sodium hydrosulphide, sodium sulphide, lime, glucoes, quaternary ammonium compounds, soda ash, Na2S, H2S Gas. Fleshing Machines and scrapping tools etc., microorganisms, electricity	Repititive movements of body to lift hides, uneven / wet & slippery surfaces leading to falls / slips, splashes of water and chemicals, contact with and inhalation of chemicals, machine noise and vibrations, ungaurded moving parts / gates of rotary drums or paddles, accumulation of harmful toxic gases likes H2S, electric hazards	Possibility of skin effects, respiratory problems, minor or major injuries, skin abrasions, Noise induced hearing loss (NIHL), Neurological effects or death due to toxic gases, injuries / illness of muscles and joints, electric injuries
	5.2.3	**Fleshing**	Fleshing of limited pelt using fleshing machine under controlled continuous water flow	Chemicals inpregnated on hides being released in flesh and water, fleshing machines and scrapping tools, microorganisms, electricity	Repititive movements of body to lift hides, uneven / wet & slippery surfaces leading to falls / slips, splashes of water and chemicals, contact with and inhalation of chemicals, machine noise and vibrations, ungaurded moving parts, electric hazards	Possibility of skin effects, respiratory problems, minor or major injuries, skin abrasions, injuries / illness of muscles and joints, electric injuries

Control

Top Management must make appropriate policies and SOP's for safe work practices and procedure, appropriate training of supervisors and workers, preventive and regular civil, machine, equipment repairs and maintenance, adequate lighting and ventilation and use of appropriate personal protective equipments, regular audits, review and improvements of the work processes.

The role of middle management is mainly to supervise day to day activities, monitoring & reporting of the work and of any incidences, preventive maintenance of the machines, tools and equipment; maintenance and cleanliness of work place, labour training on good workplace practices - mainly on manual material handling, safety and PPE's, making workers understand the importance of safe practices, first aid, emergency response, participation in mock drills etc.

Workers must understand and adhere to the instructions and guidelines, follow the work practices, reasonabilty for cleanliness and maintenance of work area, machines, tools and equipments; use PPEs as per the training and requirement, regularly report incidents / events and practical issues to the middle management / supervisor.

TANNERY PROCESS : TANNING SECTION

5.3	SN	Processes	Brief Description	Possible risk factors	Safety Hazards	Health Effects
TANNING SECTION	5.3.1	**Delimimg**	Hides are rotated repeatedly in drums to remove the chemicals used in Liming operations.	Chemicals such as Ammonium Sulphate, Ammonium Chloride, weak organic acids, ammonia gas generation, Fleshing Machines and scrapping tools etc., electricity	Repititive movements of body to lift hides, uneven / wet & slippery surfaces leading to falls / slips, splashes of water and chemicals, contact with and inhalation of chemicals, generatio of harmful gases, rotatory drums, machine noise and vibrations, ungaurded moving parts, electric hazards	Possibility of skin effects, respiratory problems, minor or major injuries, skin abrasions, Noise induced hearing loss (NIHL), Neurological effects or death due to toxic gases, injuries / illness of muscles and joints, electric injuries
	5.3.2	**Bating**	Hides are repeatedly rotated in drums to cleanse the grain surface free from hair roots, dirt, etc.	Chemicals such as enzymes, bio-catalysts, alkaline enymatic products, electricity	Repititive movements of body to lift hides, uneven / wet & slippery surfaces leading to falls / slips, splashes of water and chemicals, contact with and inhalation of chemicals, generatio of harmful gases, rotatory drums, machine noise and vibrations, ungaurded moving parts, electric hazards	Possibility of skin effects, respiratory problems, minor or major injuries, skin abrasions, Noise induced hearing loss (NIHL), Neurological effects or death due to toxic gases, injuries / illness of muscles and joints, electric injuries
	5.3.3	**De-greasing**	Hide are rotated repeatedly in Drums to remove fat, using emulsifiers as degreasing agents; Occasionally enzymes are also used	Corrosive chemicals such as kerosene, strong emulsifying agents and solvens, electricity	Repititive movements of body to lift hides, uneven / wet & slippery surfaces leading to falls / slips, splashes of water and chemicals, contact with and inhalation of chemicals, generatio of harmful gases, rotatory drums, machine noise and vibrations, ungaurded moving parts, electric hazards	Possibility of skin effects, respiratory problems, minor or major injuries, skin abrasions, Noise induced hearing loss (NIHL), Neurological effects or death due to toxic gases, injuries / illness of muscles and joints, electric injuries
	5.3.4	**Pickling**	Pickling is done to appropriate pH through acid & salt as needed at slow speed & time control	Acidic chemicals such as common salt-NaCl, sulphuric acid, hydrochloric acid, formic acid, electricity	Repititive movements of body to lift hides, uneven / wet & slippery surfaces leading to falls / slips, splashes of water and chemicals, contact with and inhalation of chemicals, generatio of harmful gases, rotatory drums, machine noise and vibrations, ungaurded moving parts, electric hazards	Possibility of skin effects, respiratory problems, minor or major injuries, skin abrasions, Noise induced hearing loss (NIHL), Neurological effects or death due to toxic gases, acid burns, injuries / illness of muscles and joints, electric injuries
	5.3.5	**Tanning**	The hide undergoes chrome or vegetable tanning to become 'usable' Leather.	Chemicals such as basic chromium sulphate, organic vegetable tanning compounds, sodium bicarbonats, sodium formate, preservatives	Repititive movements of body to lift hides, uneven / wet & slippery surfaces leading to falls / slips, splashes of water and chemicals, contact with and inhalation of chemicals, generatio of harmful gases, rotatory drums, machine noise and vibrations, ungaurded moving parts, electric hazards	Possibility of skin effects, respiratory problems, chrome ulcers, cancers, minor or major injuries, skin abrasions, Noise induced hearing loss (NIHL), Neurological effects or death due to toxic gases, acid burns, injuries / illness of muscles and joints, electric injuries

Control

Top Management must make appropriate policies and SOP's for safe work practices and procedure, appropriate training of supervisors and workers, preventive and regular civil, machine, equipment repairs and maintenance, adequate lighting and ventilation and use of appropriate personal protective equipments, regular audits, review and improvements of the work processes.

The role of middle management is mainly to supervise day to day activities, monitoring & reporting of the work and of any incidences, preventive maintenance of the machines, tools and equipment; maintenance and cleanliness of work place, labour training on good workplace practices - mainly on manual material handling, safety and PPE's, making workers understand the importance of safe practices, first aid, emergency response, participation in mock drills etc.

Workers must understand and adhere to the instructions and guidelines, follow the work practices, responsibly for cleanliness and maintenance of work area, machines, tools and equipments; use PPEs as per the training and requirement, regularly report incidents / events and practical issues to the middle management / supervisor.

TANNERY PROCESS : CRUSTING SECTION

5.4	SN	Processes	Brief Description	Possible risk factors	Safety Hazards	Health Effects	Controls
CRUSTING SECTION	5.4.1	Samming	Samming is done to bring dwon the moisture from hides	Chemicals such as organic dyes, organic acusd, fat liquors, phenolic compounds, sodium bicarbonate, socium acetate, ammonium bicarbonate, emulsifying fats, syntan etc., Samming, setting, vacuum drying, hook drying, staking, toggling, trimming, buffing (semi - automatic mac hines); electricity; worn out uneven wooden platforms, buffing dust	Repititive movements of body to lift hides, uneven / wet & slippery surfaces leading to falls / slips, splashes of water and chemicals, contact with and inhalation of chemicals, generation of harmful gases, rotatory drums, machine noise and vibrations, ung aurded moving parts, electric hazards; haphazard lay out of wooden platform without proper walkways	Possibility of skin effects, respiratory problems, minor or major injuries, skin abrasions, Noise induced hearing loss (NIHL), Neurological effects or death due to toxic gases, acid burns, injuries / illness of muscles and joints, electric injuries, exposu re to extreme heat or weaher conditions	Top Manageent must make appropriate policies and SOP's for safe work practices, appropriate training of supervisors and workers, preventive and regular civil, machine, equipment repairs and maintenance, adequate lighting and ventilation and use of appropri ate persnal protective equipments,
	5.4.2	Splitting	Hide is split as per the thickness requirement by the splitting machine				
	5.4.3	Shaving	Shaving is done on shaving machiine to obtain required thickness accurately				
	5.4.4	Wet end operations	Chemical treatment is done in drums to make crut for final use				
	5.4.5	Setting out	Setting is done in setting machine to flatten the crust				
	5.4.6	Vaccum drying	Impove the flattening by temperature and vaccum method				
	5.4.7	Hang drying	Hanging on moving conveyor or on bamboo sticks for complete drying				

Control

Top Management must make appropriate policies and SOP's for safe work practices and procedure, appropriate training of supervisors and workers, preventive and regular civil, machine, equipment repairs and maintenance, adequate lighting and ventilation and use of appropriate personal protective equipments, regular audits, review and improvements of the work processes.

The role of middle management is mainly to supervise day to day activities, monitoring & reporting of the work and of any incidences, preventive maintenance of the machines, tools and equipment; maintenance and cleanliness of work place, labour training on good workplace practices - mainly on manual material handling, safety and PPE's, making workers understand the importance of safe practices, first aid, emergency response, participation in mock drills etc.

Workers must understand and adhere to the instructions and guidelines, follow the work practices, responsibly for cleanliness and maintenance of work area, machines, tools and equipments; use PPEs as per the training and requirement, regularly report incidents / events and practical issues to the middle management / supervisor.

TANNERY PROCESS : FINISHING SECTION

5.5	SN	Processes	Brief Description	Possible risk factors	Safety Hazards	Health Effects	Controls
FINISHING SECTION	5.5.1	**Spray**	Colorcoating done by manual or auto spray system	Chemicals such as solvants, formaldehyde, lacquers, pigments and dye chemicals binders, waxes etc., electricity	Repititive movements of body to lift hides, uneven / wet & slippery surfaces leading to falls slips, splashes of water and chemicals, contact with and inhalation of chemicals, volatile organic compunds, generatio of harmful gases, rotatory drums, machine noise and vibrations, ungaurded moving parts, electric hazards	Possibility of skin effects, respiratory problems, minor or major injuries, skin abrasions, Noise induced hearing loss (NIHL), Neurological effects or death due t toxic gases, exposure to carcinogenic chemicals, injuries / illness of muscles and joints, electric injuries	Top Manageent must make appropriate policies and SOP's for safe work practices, appropriate training of supervisors and workers, preventive and regular civil, machine, equipment repairs and maintenance, adequate lighting and ventilation and use of appropriate persnal protective equipments
	5.5.2	**Padding**	Oil or wax coaing is done as per the requirement manually or roller coating for uniform coating				
	5.5.3	**Hydraulic press operation**	Hyraulic pressing is done for embossing / ironing (ironing may be done on Roto Machine)				
	5.5.4	**Drying**	Drying is done in ho chamber or on conveyor				
	5.5.5	**Dry drumming / Milling**	Ballmill drumming is done for desired softness				
	5.5.6	**Trimming, Measuring & Packing**	Manual trimming, measurement & packing activities are done as per requirement				

Control

Top Management must make appropriate policies and SOP's for safe work practices and procedure, appropriate training of supervisors and workers, preventive and regular civil, machine, equipment repairs and maintenance, adequate lighting and ventilation and use of appropriate personal protective equipments, regular audits, review and improvements of the work processes.

The role of middle management is mainly to supervise day to day activities, monitoring & reporting of the work and of any incidences, preventive maintenance of the machines, tools and equipment; maintenance and cleanliness of work place, labour training on good workplace practices - mainly on manual material handling, safety and PPE's, making workers understand the importance of safe practices, first aid, emergency response, participation in mock drills etc.

Workers must understand and adhere to the instructions and guidelines, follow the work practices, responsibility for cleanliness and maintenance of work area, machines, tools and equipments; use PPEs as per the training and requirement, regularly report incidents / events and practical issues to the middle management / supervisor.

TANNERY PROCESS : FINISHING SECTION

5.6	SN	Processes	Brief Description	Possible risk factors	Safety Hazards	Health Effects	Controls
Miscellaneous activities across the manufacturing	5.6.1	**Warehouse**	Chemical - Storing, dispensing; others like fuel or lubricants etc	Chemicals, storing at heights, unorganized storing and dispensing	Repititive movements of body, uneven / wet & slippery surfaces leading to falls / slips, splashes / spills chemicals, contact with and inhalation of chemicals, generatio of harmful gases	Possibility of skin effects, respiratory problems, minor or major injuries, injuries / illness of muscles and joints,	Top Manageent must make appropriate policies and SOP's for safe work practices, appropriate training of supervisors and workers, preventive and regular civil, machine, equipment repairs and maintenance, adequate lighting and ventilation and use of appropri ate persnal protective equipments,
	5.6.2	**Maintenance**	Electrical, machines, civil works, stairs, lifts, hoists, welding etc.	Lubricants, oils, equipmets and tools.	Repititive movements of body, uneven / wet & slippery surfaces leading to falls / slips, ungaurded moving parts, electric hazards	Possibility of skin effects, respiratory problems, minor or major injuries, injuries / illness of muscles and joints, electric injuries	
	5.6.3	**Laboratory**	Leather and chemical testing, sampling	Various chemicals, lab glass ware and other lab equipment and machines	Repititive movements of body, uneven / wet & slippery surfaces leading to falls / slips, splashes / spills of chemicals, contact with and inhalation of chemicals, electric hazards	Possibility of skin effects, respiratory problems, minor or major injuries, skin abrasions, injuries / illness of muscles and joints, electric injuries	
	5.6.4	**Primary effluent treatment plant (PETP)**	To control the waste water discharge with acceptable parameters as per legal requirments involving chemical dozing and or chrome recovery	Chemicals like lime, alums, polyelectrolytes, sulphuric acid; coagulator rotary fins,	Uneven / wet & slippery surfaces leading to falls / slips, splashes of water and chemicals, contact with and inhalation of chemicals, generatio of harmful gases, noise, ungaurded moving parts, electric hazards	Possibility of skin effects, respiratory problems, minor or major injuries, Noise induced hearing loss (NIHL), Neurological effects or death due to toxic gases, electric injuries	
	5.6.5	**Solid waste**	Management of sludge and solid watse	Chemicals fumes and gases	Repititive movements of body, uneven / wet & slippery surfaces leading to falls / slips, contact with and inhalation of chemicals, generatio of harmful gases,	Possibility of skin effects, respiratory problems, minor or major injuries, skin abrasions, injuries / illness of muscles and joints	

Control

Top Management must make appropriate policies and SOP's for safe work practices and procedure, appropriate training of supervisors and workers, preventive and regular civil, machine, equipment repairs and maintenance, adequate lighting and ventilation and use of appropriate personal protective equipments, regular audits, review and improvements of the work processes.

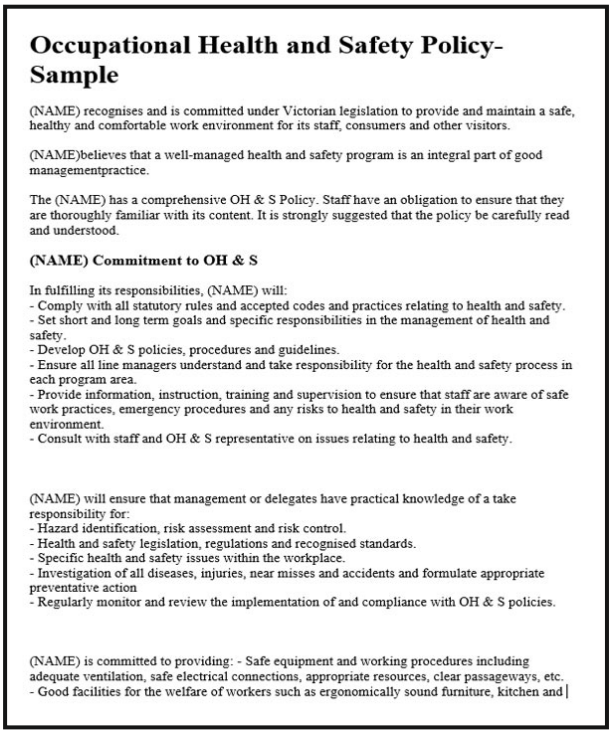
The role of middle management is mainly to supervise day to day activities, monitoring & reporting of the work and of any incidences, preventive maintenance of the machines, tools and equipment; maintenance and cleanliness of work place, labour training on good workplace practices - mainly on manual material handling, safety and PPE's, making workers understand the importance of safe practices, first aid, emergency response, participation in mock drills etc.

Workers must understand and adhere to the instructions and guidelines, follow the work practices, responsibility for cleanliness and maintenance of work area, machines, tools and equipments; use PPEs as per the training and requirement, regularly report incidents / events and practical issues to the middle management / supervisor.

List of Policies

Policies are essential for any organisation as they provide a framework for decision making, establish guidelines for behavior, and ensure consistency in operations. Following is the tentative list of policies which a model leather tannery unit can make to ensure the health and safety of all the stakeholders:

SN	Tentative List of Policies
1	OHS Policy
2	Chemical Storage & dispensing policy
3	Communication policy
4	Dress code policy
5	EPR (Emergency Preparedness and Response) policy
6	ETP (Effulent Treatment Plant) policy
7	Fire safety policy
8	General administration policy
9	Laboratory policy
10	Maintenance policy
11	MSDS (Material Safety Datasheet) policy
12	Operations manual policy
13	Parking policy
14	PPE (Personal Protective Equipment) Matrix policy
15	Quality policy
16	Safety policy (sample policy included in this framework)
17	Scrap policy
18	Security & visitor policy
19	Storing & stacking policy
20	Work permit policy



Occupational Health and Safety Policy-Sample

(NAME) recognises and is committed under Victorian legislation to provide and maintain a safe, healthy and comfortable work environment for its staff, consumers and other visitors.

(NAME)believes that a well-managed health and safety program is an integral part of good managementpractice.

The (NAME) has a comprehensive OH & S Policy. Staff have an obligation to ensure that they are thoroughly familiar with its content. It is strongly suggested that the policy be carefully read and understood.

(NAME) Commitment to OH & S

In fulfilling its responsibilities, (NAME) will:
- Comply with all statutory rules and accepted codes and practices relating to health and safety.
- Set short and long term goals and specific responsibilities in the management of health and safety.
- Develop OH & S policies, procedures and guidelines.
- Ensure all line managers understand and take responsibility for the health and safety process in each program area.
- Provide information, instruction, training and supervision to ensure that staff are aware of safe work practices, emergency procedures and any risks to health and safety in their work environment.
- Consult with staff and OH & S representative on issues relating to health and safety.

(NAME) will ensure that management or delegates have practical knowledge of a take responsibility for:
- Hazard identification, risk assessment and risk control.
- Health and safety legislation, regulations and recognised standards.
- Specific health and safety issues within the workplace.
- Investigation of all diseases, injuries, near misses and accidents and formulate appropriate preventative action
- Regularly monitor and review the implementation of and compliance with OH & S policies.

(NAME) is committed to providing: - Safe equipment and working procedures including adequate ventilation, safe electrical connections, appropriate resources, clear passageways, etc.
- Good facilities for the welfare of workers such as ergonomically sound furniture, kitchen and

Safety Matrix

The following table is the possible process-wise safety matrix - to be evolved in a model leather tannery unit.

Process Area → / Safety Feature ↓	Desalting	Trimming / cutting	Soaking	Liming	De liming	Bating	De-greasing	Pickling	Tanning	Wet end	Dry end	Office area	Loading / unloading	Maintenance	Finish products	ETP
EPR	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Fire fighting											√	√	√	√	√	√
Dress Code	√	√	√	√	√	√	√	√	√	√						
PPE Matrix	√	√	√	√	√	√	√	√	√	√	√			√		√
Walk way	√	√	√	√	√	√	√	√	√	√				√		√
MSDS	√		√	√	√		√	√	√				√			√
Stack Policy	√	√	√	√	√	√	√	√	√	√	√		√		√	√
Parking Policy										√	√	√	√			√

A Sample PPE (Personal Protective Equipment) Matrix

The following table is the possible process-wise PPE Matrix - to be evolved in a model leather tannery unit, based upon their own policy on PPEs & safety.

PPEs	Operational areas											Remarks
	Beam House	Machines area	Finishing area	ETP	Scrap Yard	Maintenance	Chemical Store	Ball Mill	Spray Area	Raw Hide Store	DG area	
Goggles	√	√		√		√			√			Welding area
Helmet		√		√		√						
Hand Gloves	√	√	√	√		√	√		√	√		
Anti slip Boots	√			√	√		√			√	√	
Chest Guard		√			√	√		√				
Fall arrestor				√		√						As per need
Nose Mask				√			√			√		
Ear Plugs		√									√	

- The process owner maintains appropriate number of spare PPEs for replenishments / visitors.
- The selection and procurement is done by the process owner (for PPE) based on user feedback.
- The usage is monitored by the process owner (for PPE).

Sample of Operation Monitoring Sheet (OMS)

A Sample for OMS (Operation Monitoring Sheet) must be maintained by the concerned process owner for recording and reporting of the incidents.

S.No.	Date	Time of Observation	Place/area	What is noticed	Action Planned (if any)	Execution brief	Closing Remarks*

*Closing remarks will be done only when the particular action planned is satisfactorily completed.

Health Monitoring Schedule

This is an indicative Health Monitoring Schedule required to be followed in a model leather tannery unit. The organisation is free to modify this according to their own policy on health & safety.

Health Monitoring Schedule	Persons from Operational areas											Remarks
	Beam House	Machines area	Finishing area	ETP	Scrap Yard	Mainte-nance	Chemical Store	Ball Mill	Spray Area	Raw Hide Store	DG area	
General Health Check up	√	√	√	√	√	√	√	√	√	√	√	Annual
General Health Check up	√	√	√				√	√	√	√		Once every 6 months
General Blood tests	√	√	√	√	√	√	√	√	√	√	√	Annual
Lung function test	√			√			√		√	√		Annual
Eye Screening/ Checkup	√	√	√	√	√	√	√	√	√	√	√	Annual
Hearing Screening/ Check up		√									√	Annual
Others Tests	E.g. ECG (40+ years), Specific Blood Test (Chrome Levels)											Based on the Risk Assessment

Workplace Safety Inspection Check List

Date: _____			**Location:** _____		
Responsible Individual: _____					
	YES	**NO**	**N/A**	**ACTION REQUIRED**	**DATE TO BE COMPLETED**
Management Commitment					
OHS Policy made & displayed					
Safety officer or safety responsible person					
OHS committee has employee representative					
OHS committee has regular meetings					
Safety responsibilities defined					
Safety manual available					
Standard Operating Procedures (SOPs)					
Work permits					
Safety training of all the employees					
Accident and incident reporting mechanism					
Hazard reporting and follow up					
Safety provision for visitors					
Safety provision for disabled					
Display of safety signs					
Warning signs					
Mechanism for monitoring of effectiveness of OHS program					
Training					
Induction training					
Job specific training					
Process specific training					
Refresher programs					

continued...

Workplace Safety Inspection Check List

...continued

	YES	NO	N/A	ACTION REQUIRED	DATE TO BE COMPLETED
Work place environment					
Layout of work area					
Adequate ventilation					
Presence of fumes, dust, gases					
Temperature and humidity control					
Noise control					
Lighting					
Vibrations					
Ladders and steps					
Scaffolds					
Work practices					
Manual handling					
Use of mechanical handling equipment					
Maintenace of work areas					
Handling of tools and equipment					
Cleanliness of working area					
Machine Safety					
Conditions of Drums / Paddles					
Maintenance of machines					
Guarding of machines					
Emergency isolation switches					
Safety of Cranes and hoists					
Guard rails					

continued...

Workplace Safety Inspection Check List

...continued

	YES	NO	N/A	ACTION REQUIRED	DATE TO BE COMPLETED
Fire Safety					
Fire safety plan					
Fire exit map					
Fire detection system					
Alarm and Emergency Evacuation system					
Are Alarms audible in all areas					
Fire extinguisher - type					
- location					
- serviced					
- operator training					
Fire hose reels					
Fire hydrants					
Automatic fire fighting system					
Access for Fire Brigade					
Housekeeping					
Storage - racks, bins, shelves					
- aisles and walkways kept clear					
- neat and orderly					
- heavy items kept low					
- sufficient space to access items					
Removal of combustibles					
Rubbish - regularly removed					
- sufficient bins					
- separation of waste					

continued...

Workplace Safety Inspection Check List

...continued

	YES	NO	N/A	ACTION REQUIRED	DATE TO BE COMPLETED
Hygiene					
Separate work and eating areas					
Drinking water					
Washing facilities					
Toilets					
Work clothes lockers and hanging areas					
Regularly cleaned area					
Personnel Protection					
Correct selection, location, information and warning signs and maintenance					
Coats/Overalls					
Eye protection					
Gloves					
Footwear					
Respiratory Protection					
Helmets					
Hearing Protection					
Emergency preparedness					
Onsite & offsite emergency plan					
Emergency procedures					
Contact telephone numbers					
Safety Showers					
Eye wash units					
First Aid kit					
Trained First Aider					
Assembly area					

continued...

Workplace Safety Inspection Check List

...continued

	YES	NO	N/A	ACTION REQUIRED	DATE TO BE COMPLETED
Chemical Safety					
Material Safety Data Sheets (MSDS) available					
Register of chemicals					
Containers condition					
Correct labelling					
Suitable storage					
Segregation into classes					
Appropriate mechanism to carry large containers					
Waste collection and disposal					
Spill handling procedures					
Electrical safety					
Electrical safety plan					
Qualified electrician					
Regular maintenance					
Sufficient circuits					
Protection of fittings against external damage					
Condition of plug					
Evacuation					
Procedures established					
Wardens appointed					
Display of floor plans and escape routes					
Mock Drills					
Communication system					
Exits - unobstructed & open from inside					

Essentials of a Safety Policy

- Every organisation must make a Safety Policy statement in writing, signed by the Top Management.
- The Top Management may take help from others; but, the policy must be understood by the signing authority, prior to signing.
- As per convenience, it can be drafted and signed in any language suitable to the organization. But, after signing, an english translation must also be made and available in writing.
- The safety policy must positively say the following, in addition to other points
  - o Commitment to safety & well being of all possible human life in work premises
  - o Commitment to the above when work is performed outside the premises
  - o Commitment to adherence to legal and other regulatory obligations
  - o Commitment to ensure workplace with the least possible hazards
  - o Commitment to safety of work force during hazardous activities
  - o Commitment to monitor health of work force through suitable, periodic health related medical reviews
  - o A clear and unambiguous PPE (Personal Protective Equipment) Matrix must be established and communicated; The PPE Matrix must cover the following (as a minimum):
    - Type of PPE is recommended / required at particular work site
    - Responsibility for providing PPE
    - Training for use of PPE
    - The methods to dispose-off PPE
- The signed copy of the safety policy must be available at the designated place
- The safety policy must be displayed at relevant sites of the organisation
- The safety policy must be understood by all the stakeholders of the organisation

Sample of Safety Policy

[Company Name] Safety Policy

At [Company Name], we are committed to providing a safe and healthy work environment for all employees, contractors, visitors, and stakeholders. We recognize that the well-being of our workforce is paramount, and we are dedicated to preventing accidents, injuries, and occupational illnesses through the implementation of effective safety measures.

We hereby pledge to:

Safety First: The safety and health of our employees are our top priorities. We are committed to ensuring that all employees return home safely at the end of each workday.

Compliance: We will comply with all relevant occupational health and safety laws, regulations, and industry standards. We will strive to exceed minimum requirements wherever possible to ensure the highest level of safety for our employees.

Risk Management: We will identify, assess, and mitigate workplace hazards to prevent accidents and injuries. We will regularly review our work processes, equipment, and facilities to identify potential risks and implement controls to minimize or eliminate them.

Training and Education: We will provide comprehensive safety training and education to all employees to ensure they have the knowledge and skills necessary to perform their jobs safely. We will also provide ongoing training to keep employees informed about new hazards, procedures, and best practices.

Communication and Consultation: We will foster open communication and consultation with employees regarding safety matters. We encourage employees to report hazards, near misses, and safety concerns promptly so that they can be addressed effectively.

Continuous Improvement: We are committed to continuously improving our safety performance through regular monitoring, evaluation, and feedback. We will establish safety performance indicators and targets to measure our progress and identify areas for improvement.

Emergency Preparedness: We will develop and maintain emergency response plans and procedures to effectively respond to emergencies, including fires, natural disasters, and medical emergencies. We will conduct regular drills and exercises to ensure that employees are prepared to respond quickly and appropriately in emergency situations.

Responsibility and Accountability: Every employee has a responsibility to prioritize safety and adhere to established safety policies and procedures. Managers and supervisors are accountable for enforcing safety rules, providing adequate resources, and leading by example.

At [Company Name], safety is not just a priority; it is a core value that guides everything we do. We are committed to creating a culture of safety where every employee feels empowered to take proactive steps to prevent accidents and injuries. By working together and embracing our safety responsibilities, we can ensure a safe and healthy workplace for everyone.

List of SOPs (Standard Operating Procedures)

Standard Operating Procedures are detailed, written instructions to achieve uniformity in the performance of specific activities, to reduce risk and to enhance the accountability and continuous improvement, to ensure efficiency, safety and compliance in an organisation. Following is the tentative list of SOPs which a model leather tannery unit can make for its day-to-day operations:

S.No.	Tentative List of SOPs
1	SOPs for Raw Hide Section (Unloading, Stacking, Trimming & Cutting, Desalting)
2	SOPs for Beam House (Soaking, Liming & Fleshing)
3	SOPs for Tanning Section (De-liming, Bating, De-greasing, Pickling, Tanning
4	SOPs for Crusting Section (Samming, Splitting, Shaving, Setting, Vacuum & Hanging
5	SOPs for Finishing Section (Spraying, Padding, Roller coating, Hydraulic Press, Irioning, Drawing, Milling, Measuring & Packing
6	SOPs for Storing of Chemicals
7	SOPs for Maintenance (Electrical / Mechanical)
8	SOPs for Quality Control
9	SOPs for Laboratory
10	SOPs for Machine Operations
11	SOPs for Administration
12	SOPs for Security
13	SOPs for Parking
14	SOPs for Building
15	SOPs for Stairs / Elevators
16	SOPs for Waste Management
17	SOPs for ETP (Effulent Treatment Plant)
18	SOPs for Generator / Boiler
19	SOPs for Medical Examination
20	SOPs for Horticulture

Standard Operating Procedure *(Sample)*				
Ref. No.		**Title**	**Authored by**	**Approved By**
SOP/BH-01		**BEAM HOUSE**	BH (In charge)	M.D
Section	**Sub Section**	**SOP (including responsibility)**	**Ref. No. of the Record**	**Remarks**
Purpose	-----	*To describe the activities of the Beam House function with focus on **OHS** (Occupational Health & safety)*	OHS Policy / Section _____	
Scope	-----	*The beam House operations covering the soaking & liming activities involving XX Drums & YY Paddles*		The Drums are numbered A,B,C…. & The Paddles are identified as 1,2,3,..
Owner	-----	Beam House (In-charge)		
SOP STEPS	**Mandatory PPEs**	*Hand Gloves, Anti slip boots, Goggles, Dress code, Safety Gates, Marking & Identification, Insulation sheet, Light Helmet; floor level Marking;*		**Refer to PPE Matrix**
	Input Resources	*Raw Hide, Today's Plan Sheet, Electricity, Water; Chemicals, Enzyme, Bactericides, Lime, Sodium sulphide*		
	Machines / Tool	*Drum / Paddle; Drive motors & Pumps with control Panel; Clock ; Torch light, Tongs; Spatula, Jars & Mugs; weighing machines (if needed)*	Recording sheet & pen	
	Activities	Understand the Plan & clarify, if needed. **Open the safety gate** only when the Drum is still. Use PPEs as per Matrix*. **Soaking :** Load One bunch (___ pieces) of Hide in the drum & pump ___ Liters of water; Doze in Chemicals as per Plan; Close the lid tightly & run at 1-3 rpm for ____ minutes; **Liming :** After satisfactory* soaking, Doze in Chemicals (Lime & Sodium sulphide) as per Plan; Close the lid tightly & run at 1-3 rpm for ____ minutes; **Breakdown:** When any Breakdown is noticed, inform the process supervisor & wait for his clearance; Re-start only when the functioning is normal and satisfactory. **Report :** Report the proceedings of the operation in detail as desired by the Process supervisor (in writing only); Also report any incident (including near-miss) to the process supervisor or immediate senior. **Close :** After the close of work, normalize & switch-off the machineries involved, and clean the machines and the area. Ensure that all tools & PPEs are kept back in their designated place. Ensure that the wastes are collected or drained as per the waste management policies.	*Beam House Log Book (to be filled either by the operator or the process owner, as decided by the management)* *Break down Report (to be filled either by the operator or the process owner, as decided by the management)* *Incident Register (to be filled either by the operator or the process supervisor, as decided by the management)*	*10-12 rpm if done on paddle.* *(**The steps can be written as elaborately as possible, so that there is no need of any oral instructions to the operator and must be written in the language they can understand**)* **Define what is satisfactory*
	Outputs	Leather fit for fleshing operation (next phase); Waste water, hair & sludge waste & process reports.		
Records		Beam House Log book; Break down report; ***Incident Register.***		

TANNER'S VOICE

Solidaridad's implementation of an Occupational Health & Safety (OHS) Framework for Kolkata's leather tanneries marks a pivotal stride in ensuring the safety of workers. The preceding initiative involving Occupational Health & Safety workshops in tanneries underscores a profound commitment. This framework underscores the paramount significance of a secure working environment. We wholeheartedly endorse Solidaridad's steadfast dedication to advancing the welfare of the tannery workforce.

Zia Nafis, Partner Zia hide skin Agengies,

Joint Secretary, CLCTA

An effective Occupational Health and Safety Framework is not just a document; it's a commitment to the well-being of every worker. It ensures that safety is not just a priority, but a culture embraced by all. By implementing robust safety measures, we not only protect our workforce but also enhance productivity and inspire confidence in our operations. It's an investment in our most valuable asset – our people. We fervently support Solidaridad's unwavering commitment to furthering the welfare of the tannery workforce.

Shahid Parwaz, Managing Director, Aslam Tanning Industries Pvt. Ltd.
Joint Secretary, CLCTA

The Occupation Health & safety framework Initiate by Solidaridad for Tanneries is an important initiative for the tannery workforce well-being. Their previous Health & safety workshops and activities in leather Tanneries are a testament to their dedication.

This framework reflects Solidaridad's commitment to promoting safe working environments. We support their efforts to prioritize workplace safety.

Wakil Ahmed, Director,
Lais Leather Industries Pvt. Ltd.

TANNER'S VOICE

We applaud Solidaridad for their initiative in developing a framework focused on the welfare of our workforce at the leather complex. Their past Occupational Health & Safety endeavors within the tanneries have been invaluable.

This new framework represents a significant step toward ensuring the safety and health of our workers, demonstrating Solidaridad's enduring commitment to the wellbeing of the leather industry.

MD Tahir Khurshid, Managing Director,
Trident Leather

An Occupational Health & Safety framework establish by Solidaridad for the Kolkata Tanneries is commendable. Their past OHS Activities at our tannery underline their dedication towards the well-being of workers.

This framework goes to long way towards ensuring the safety and health of our workforce. An important step forward. We applaud Solidaridad's commitment to improve workplace conditions in our leather Industries.

Asad Ahmad, Chief Executive Officer,
N. J. Export.

LIST OF EMERGENCY SERVICES

FIRE SERVICE STATION	**Calcutta Leather Complex** Karaidanga, 24 South Parganas, West Bengal, Pin code 743502 Phone: 8420097399, 03218-278007
POLICE STATION	**Calcutta Leather Complex** Karaidanga, 24 South Parganas, West Bengal Pin code 743502 Phone: 8860410416
AMBULANCE SERVICE	**Jiran Gachha Primary Health Centre** Sonarpur, Bantala Road, Bantala, Jiran Gachhi West Bengal 700135 Phone: +91 03218 275755 | 9932180358
CALCUTTA LEATHER COMPLEX TANNER ASSOCIATION (CLCTA)	**Calcutta Leather Complex** CETP, Karaidanga, 24 South Parganas, West Bengal- Pin code 743502 Phone: +91 9833349564 Email: ctctanners@gmail.com

PHOTO GALLERY


DRUM-7


Occupational Health & Safety Workshop
Vinit Gloves Mfg. Pvt. Ltd
Solidaridad
OCCUPATIONAL HEALTH AND SAFETY


OCCUPATIONAL HEALTH AND SAFETY WORKSHOP

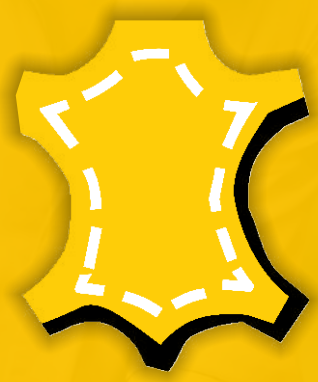

Solidaridad
Occupational Health & Safety Workshop
Ahmad International (Italian)
REUSE REDUCE RECYCLE
FIRST AID KIT

Solidaridad

switchasia

Funded by the European Union

Netherlands Enterprise Agency



Change That Matters

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