SAP EHS - Industrial Hygiene and Safety

Contents

Industrial Hygiene and Safety: Business Process Procedure

1 Purpose

1.1 Scenario Overview

In today's competitive mining environment where production demand is high and efficiency is a necessity, the health and safety of the employees and the protection of the environment cannot be compromised. The complexity of compliance demands placed on Industrial Hygiene and Safety globally, can best be met with the use of specially tailored software, integrated into company processes. This scenario focuses on three components or building blocks of Industrial Hygiene and Safety – Risk Management, Incident/Accident Management and Measurement Management.

Risk Management:

The purpose of Risk Management is to detect risks in a variety of situations and work areas, to assess, analyze, and mitigate the risks. Hazards can be defined and assessed for the risk posed in multiple Work Areas and for different Operational Statuses. The Exposure Profile of a Work Area provides a complete overview of all risks for that particular Work Area. Furthermore, information necessary to rate the risks are made available through *Analyzing Methods* and *Amounts*. This means that industrial hygiene monitoring data from *Measurement Management* is made available as it applies to a specific risk assessment – to assist with accurate risk rating. Risks are rated and classified into categories. The risk rating is a critical input to the Occupational Health Protocols, as it determines the relevant biological monitoring for the employee based on the workplace exposure. Measures can be defined to mitigate the risk, and the risk can be reassessed and rated after the implementation of the measures. Follow-on risk assessments can be conducted.

Incident Accident Management:

Incident/Accident Management is used to report, record and investigate Incidents or Accidents. It is fully integrated with the building block *Injury/Illness Management* specified under the Occupational Health scenario. Causal trees are used to investigate the reasons leading to the event, and measures can be defined to correct and prevent similar events. These measures can be linked to the causes. This component is not only valuable for compliance with international EH&S standards, but also to prove compliance with legislative requirements. After an Incident has been investigated, the risk associated with the Incident needs to be reviewed. An Incident can be linked to a specific Risk Assessment in the Integration screen of the applicable Work Area.

Measurement Management:

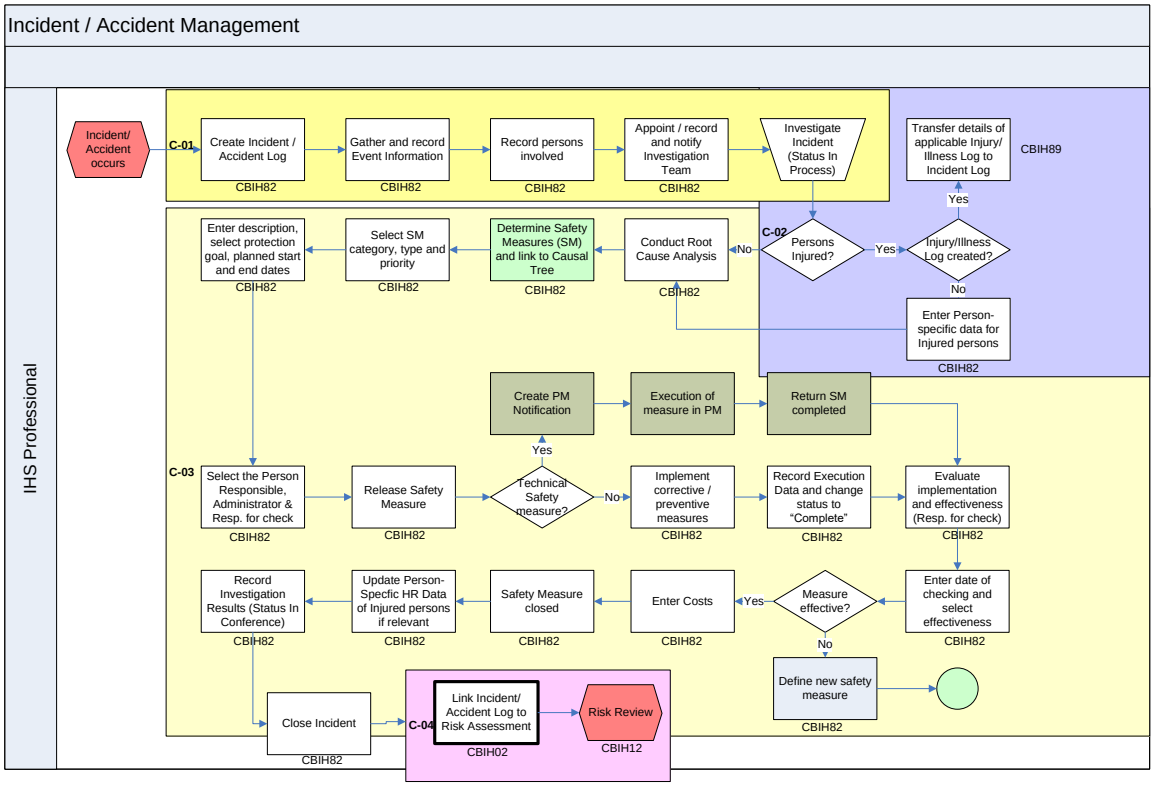
The Measurement Management component supports you with the planning, execution, and managing of industrial hygiene measurements and samples that you take in work areas in your mining operations. With measurement management, you can also monitor compliance with legal requirements. One example of this is the monitoring of threshold limit values for the air quality at the workplace.

Once a measurement project is released, the applicable risk assessments are updated with information from the measurements. This enables accurate risk rating and integration to Occupational Health processes for Medical Protocol triggered by exposure ratings. In case of over-exposures where reference values were exceeded, a non-conformance can be recorded in the Incident/Accident Log.

2 Process flow

2.1 Incident/Accident Management

There was an explosion at the Eastern Baghouse, injuring an employee and resulting in a breakdown of the baghouse. The injured person was taken to the on-site Clinic. Dust fallout is accumulating in the residential neighbourhood nearby. The sister at the clinic treats the employee and record Information in the Injury / Illness Log. The Safety Representative is informed and creates an Incident / Accident Log to record and investigate this Event.



2.1.1 Creating Injury / Illness Log

Use

The purpose of these actions is to record the initial information of the injury in the system. The injured person was taken to the on-site Clinic. Dust fallout is accumulating in the residential neighbourhood nearby. The sister at the clinic treats the employee and record Information in the Injury / Illness Log.

Procedure

1. Access the activity using one of the following navigation options:

Transaction Code	**CBIH72**
SAP Menu	*Logistics → Environment, Health and Safety → Occupational Health → Medical Services → Injury/Illness Log → CBIH72 - Edit Injury/Illness Log*

2. Choose *Create*.

3. On the *Create Injury/Illness log: Injury/Illness Log Data* screen, enter the following data and choose *Enter:*

Field name	**Description**	**User action and values**	**Note**
Entry Type	Work related serious injury	YWS	
Time aid given		Current date Current time	Date defaults to current date, this can be changed if required.
Plant	Mine 1	«Plant_BPM1»	
Person group	Employee	A	
Person affected		Choose employee from list, for example 4(Ian Injured)	
Time of event		Current date Current time minus1hour	Date defaults to current date, this can be changed if required. Current time can be any time from the event. Current time - 1hour is only an example
Log entry loc. Dsc.	Medical Center	YMC	

Field name	Description	User action and values	Note
Medical measure		1	
Type of aid	Medical measures	MED	

4. Choose *Save.*

5. Choose the *Involved* tab page and enter the following data:

Field name	Description	User action and values	Note
Accident details		Person injured in explosion.	In this example only an injured person is entered. If required more persons for example the Safety and Health Representative, can be added and additional accident details entered.

6. Choose *Aid/Follow-up Trtmt* tab page and enter the following data:

Field name	Description	User action and values	Note
Person responses		Select employee from list, for example 6.	

7. Choose *Event* tab page, enter the following data:

Field name	Description	User action and values	Note
Work area	Eastern Baghouse	MINE1_BAGH_E	

8. Choose *Enter*.

9. Choose the *Injuries* tab page.

10. In the first row, select the *Main Injury* text box.

11. Enter the following information

Field name	Description	User action and values	Note
Injury/Illness	Burn - first degree	CUST-BP-INJ-000006	Main injury
Desc. Of Inj./I		65% Burn	
Body Part	Multiple injuries/locations (more than one part of the body)	CUST-BP-BDP-000004	

Field name	Description	User action and values	Note
Desc. Body Part		65% Burn on head, legs and forearms	

12. Choose *Save*.
13. Choose the *Treatment Location* tab page and enter the following information:

Field name	Description	User action and values	Note
To further treatment	Ambulance	CUST-BP-MOT-000001	
Person group	Employee	C	
Further treatment	Physician	Press F4 to find out the doctor	

14. Set *Fatality indicator* and enter *Date of death* as current date.
15. Choose *Save*.
16. Choose *Create a Medical Service.*
17. Message *Medical service created successfully* is displayed and number of medical service appears in *Med. serv. no.field*.
18. Choose *Go to a Medical Service* icon to view medical service that was created.(Choose Service Tab)
19. Choose *Exit.*

Result

Injury/Illness log has been created in EH&S.

2.1.2 Transferring Details from Injury / Illness Log

Use

The purpose of this activity is to transfer details from Injury / Illness Log. Capture person - specific data for injured persons (if any) to a new Incident/Accident log so that the root cause can be determined of the incident.

If an Injury/Illness log relevant to this Incident has been logged in the system, it is not necessary to capture the data again, since it can be transferred to this Incident/.Accident Log.

If persons were injured but no information has been captured in the Injury/Illness Log, the information can be captured in the Incident/Accident Log.

Procedure

1. Access the activity using one of the following navigation options:

Transaction Code	CBIH89
SAP Menu	*Logistics → Environment, Health and Safety → Industrial Hygiene and Safety → Accidents → CBIH89 - Transfer Data from Injury/Illness Log*

2. Choose the Injury/Illness log created by the previous step.
3. Choose *Accept.*
4. In dialog box, choose *Create new.* Then choose the Log entry type, for example *YHS.*
5. Choose *Start Data Transfer.*
6. Record the I/A Log Entry number. _____

If persons were injured but no information has been captured in the Injury/Illness Log, the information can be captured in the Incident/Accident Log.

Result

Details from injury / illness log have been transferred.

2.1.3 Recording Initial Information

Use

In this activity you record the initial information that is available of the accident/incident. After the person has been treated in the medical center/clinic and transferred to the hospital the accident/incident log needs to be created to be investigated.

We have created the incident/accident log from the injury/illness log, the injured person and injury information as well as the work area is transferred to the incident/accident log.

Procedure

1. Access the activity using one of the following navigation options:

Transaction Code	CBIH82
SAP Menu	*Logistics → Environment, Health and Safety → Industrial Hygiene and Safety → Accidents → CBIH82 - Edit Incident/Accident Log*

2. In the *Incident/Accident Log: Initial Screen,* screen, enter the following search information:

Field name	Description	User action and values	Note
Entry type	Health and Safety	YHS	Use the same Entry type as was selected in the previous step/s
Event date (from)		Current date	
Plant	Mine1	«Plant_BPM1»	

3. Choose *Hit list*.
4. In the *Edit Incident/Accident Log: Hit List (# Hits)* screen, choose the incident/accident log that was created in previous step.
5. Choose *Incident/Accident Log Data* to view header information.

The work area that is shown in the Work area field is the one that was selected in the Injury/Illness log (it has been transferred automatically)

In the *Damage* field area a functional location can be linked if the functional location PM data has been linked to the work area. This is not included in the scenario.

6. Enter an incident/accident description in the *Event* field: *Explosion at the Eastern Baghouse.*
7. Choose *Save.*
8. Choose *Exit*.

Result

Initial information available for the Incident/Accident log has been created.

2.1.4 Recording Persons Involved

Use

In this activity you record additional person involved. In this example we are going to record the Health and Safety representative as well as the injured person's supervisor. This is done to make sure that all relevant persons are involved with the incident/accident investigation.

Procedure

1. Access the activity using one of the following navigation options:

Transaction Code	CBIH82
SAP Menu	*Logistics → Environment, Health and Safety → Industrial Hygiene and Safety → Accidents → CBIH82 - Edit*

	Incident/Accident Log

2. In the *Incident/Accident Log: Initial Screen,* enter the following search information:

Field name	Description	User action and values	Note
Entry type	Health and Safety	YHS	Use the same Entry type as was selected in the previous step/s
Event date (from)		Current date	
Plant	Mine1	«Plant_BPM1»	

3. Choose *Hit list*.
4. On the *Edit Incident/Accident Log: Hit List (# Hits)* screen, choose the incident/accident log that was created in previous step.
5. Choose *Incident/Accident Log Data* to view header information.
6. Choose the *Involved* tab page and enter the following information:

Field name	Description	User action and values	Note
Pers. Role	Health and Safety Representative	YSR	
Pers. Inv.		Choose any employee from list, for example 8	
Pers. Group		A	
Pers. Role	Supervisor	SUP	
Pers. Inv.		Choose any employee from list, for example 1	
Pers. Group		A	

7. Choose *Save.*
8. Choose *Exit*.

Result

Persons involved have been created.

2.1.5 Appointing / Recording and Notify Investigation Team

Use

In this activity you assign the following person in investigation team:

Investigation Team lead

Investigation Team member

Union Representative

Procedure

1. Access the activity using one of the following navigation options:

Transaction Code	CBIH82
SAP Menu	*Logistics → Environment, Health and Safety → Industrial Hygiene and Safety → Accidents → CBIH82 - Edit Incident/Accident Log*

2. On the *Incident/Accident Log: Initial Screen,* enter the following search information:

Field name	Description	User action and values	Note
Entry type	Health and Safety	YHS	Use the same Entry type as was selected in the previous step/s
Event date (from)		Current date	
Plant	Mine1	«Plant_BPM1»	

3. Choose *Hit list*.

4. On the *Edit Incident/Accident Log: Hit List (# Hits)* screen, choose the incident/accident log that was created in previous step.

5. Choose *Incident/Accident Log Data* to view header information.

6. Choose the *Involved* tab page and enter the following information:

Field name	Description	User action and values	Note
Pers. Role	Investigation Team Leader	YTL	
Pers. Inv.		Choose any employee from list, for example 2	
Pers. Group		A	
Pers. Role	Investigation Team Member	YTM	
Pers. Inv.		Choose any employee from list, for example 3	
Pers. Group		A	
Pers. Role	Union Representative	YUR	
Per. Inv.		Choose any employee from list, for example 7	
Pers. Group		A	

7. Choose *Save.*
8. Choose *Exit*.

Set up workflow in the system to notify the relevant people that they have been assigned to an Incident/Accident log. The workflow can describe the necessary actions that they have to take according to the business process

Result

Investigation team has been assigned to the Incident/Accident log and can now start with the investigation.

2.1.6 Determining the Root-cause

Use

The purpose of this step is determine the root-cause and contributing causes that lead to this Incident, and to define relevant corrective and preventive actions. Actions can be transferred to Plant Maintenance and returned after completion. Integration with Quality Management is also possible.

1.) View the Injury/Illness log linked to this Incident/Accident
2.) Conduct Root Cause Analysis and record results
3.) Create, release and track corrective and preventive measures
4.) Link measures to causes
5.) Evaluate the effectiveness of the measures and assign new measures if actions were not effective
6.) Record Investigation results

Procedure

1. Access the activity using one of the following navigation options:

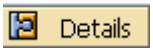
Transaction Code	**CBIH82**
SAP Menu	*Logistics → Environment, Health and Safety → Industrial Hygiene and Safety → Accidents → CBIH82 - Edit Incident/Accident Log*

2. On the *Incident/Accident Log: Initial Screen* enter the following search information

Field name	**Description**	**User action and values**	**Note**
Entry type	Health and Safety	YHS	Use the same Entry type as was selected in the previous step/s
Event date (from)		Current date	
Plant	Mine1	«Plant_BPM1»	

3. Choose *Hit list*.
4. On the *Edit Incident/Accident Log: Hit List (# Hits)* screen, double click the incident/accident log that was created in previous step.
5. Choose *Injury/Illness Log* (*F6).*
6. Choose the Injury/illness log on the *Edit Injury/Illness Log Entry: Hit list (# Hits)* screen and then choose *Injury/Illness Log data* (*F5)*  .

   Information of Injury / Illness Log is available from IA Log after linking is completed.
7. Choose *Incident/Accident log* to go back to the incident/accident.
8. On the *Edit Incident/Accident Log: Hit List (# Hits)* screen, select the incident/accident log and choose *Incident/Accident log data (F5)*  .
9. Choose *Involved* tab.
10. High light the person injured on the involved tab and choose the *Details* 

button.
11. To classify the accident choose the related accident category from the drop down list in the *Accident categ* field. For the purpose of this scenario choose *SRD* (Accident while on company business).
12. Injury information related to the specific person can be viewed by selecting the various tab pages*..*

    Choose the Injury tab page to view the injury detail that was transferred from the Injury/Illness log

    Choose the *Time Data* tab page to view the HR integration information. Take note of the date and time that the injured person ceased work.
13. Choose Save
14. Choose *Back*.
15. Choose *Investigation* tab, and enter the following data*:*
    - For comment (1) Check *Personal Factors* checkbox and drill-down
    - Check *Company Employees* checkbox and drill-down
    - Check *Training* checkbox and drill-down
    - Check *Training materials* checkbox and drill-down
    - Check *Training Material Incorrect*
    - For comment (2) Check *Technical Factors* checkbox and drill-down
    - Check *Design Faults* checkbox and drill-down
    - Check *Design Output* checkbox and drill-down

- Check *Design Output LTA* checkbox.

16. Choose *Save.*

Result

The root-cause has been determined and captured in the Incident/accident log.

2.1.7 Assigning the Safety Measure to Cause

Use

The purpose of this activity is to assign the safety measures to cause.

Procedure

1. Access the activity using one of the following navigation options:

Transaction Code	**CBIH82**
SAP Menu	*Logistics → Environment, Health and Safety → Industrial Hygiene and Safety → Accidents → CBIH82 - Edit Incident/Accident Log*

2. On the *Incident/Accident Log: Initial Screen* enter the following search information

Field name	**Description**	**User action and values**	**Note**
Entry type	Health and Safety	YHS	Use the same Entry type as was selected in the previous step/s
Event date (from)		Current date	
Plant	Mine1	«Plant_BPM1»	

3. Choose *Hit list*.

4. On the *Edit Incident/Accident Log: Hit List (# Hits)* screen, select the incident/accident log and choose *Safety Measures*.

5. Enter the following data in *Person-related* tab:

Field name	**Description**	**User action and values**	**Note**
Safety Meas. Type	Corrective Action	YC	
Priority	High	YH	

6. Double click safety measure entry and choose *Release*  .

7. Choose *Addit. Information*  .

8. Enter the following data*:*

Field name	Description	User action and values	Note
Description		Ensure that communication of procedures and responsibilities are incorporated in Induction Training of new employees.	Long text can be added when the user choose the *Long text* icon.
Protection goal	Ensure competence of employees through training and education	CUST-100000000000004	
Planned start		Current date + 1 day	
Planned end		Current date + 3 day	
Person responsible	Employee	0000000002	Pers grp: A
Administrator	Employee	0000000008	Pers grp: A
Resp. for check	Employee	0000000006	Pers grp: A

9. Choose *Save*.
10. Choose *Back* to return to the *Edit Incident/Accident Log: Hit List (# Hits)* screen.
11. Choose *Incident/Accident Log Data*  to go to the header.
12. Choose the *Investigation* tab.
13. Drill-down on *Personal Factors* to *Training Material Incorrect* and right click *Assign Safety Measure.*
14. Choose the safety measure released before, and choose *Enter.*
15. Choose Display *Note*  .
16. In the dialog box, input the following text:

    Bag house fires can result in facilities where pneumatic conveying and air filtration systems are combined with normal manufacturing processes. The industries at the highest risk of bag house explosion employ drying, cutting, grinding and other abrasive processes where sparks are generated.

    It seems that a spark was generated in the Eastern bag house which was then picked up by the pneumatic system, and transported along with the combustible dust particles. When the spark reached the storage bin, the bag house fire started and resulted in an explosion.

    The incident's contributing factor, which resulted in an unfortunate fatality was failure to describe correct installation of the spark and detection system. The Root cause was a spark igniting the storage bin due to the design output being less than adequate.

17. Choose *Back*.
18. Choose *Save.*

Result

The safety measures have been assigned to the cause.

2.1.8 Creating Plant Notification (Integration with Safety Measures)

Use

After the root cause has been identified, another safety measure has been identified. The purpose of this activity is to create plant notification (integration with safety measures) to install a spark detection and elimination system on the air filtration unit.

Actions can be transferred to Plant Maintenance and returned after completion.

Procedure

1. Access the activity using one of the following navigation options:

Transaction Code	**CBIH82**
SAP Menu	*Logistics → Environment, Health and Safety → Industrial Hygiene and Safety → Accidents → CBIH82 - Edit Incident/Accident Log*

2. On the *Incident/Accident Log: Initial Screen*, enter the following search information:

Field name	**Description**	**User action and values**	**Note**
Entry type	Health and Safety	YHS	Use the same Entry type as was selected in the previous step/s
Event date (from)		Current date	
Plant	Mine1	«Plant_BPM1»	

3. Choose *Hit list*.

4. On the *Edit Incident/Accident Log: Hit List (# Hits)* screen, choose the incident/accident log.

5. Choose *Safety Measure* to go to the safety measure screen.

6. Choose the *Technical* tab page.

Field name	**Description**	**User action and values**	**Note**
Safety Meas. Type	Preventive Action	YP	
Priority	High	YH	

7. Double click safety measure entry and choose *Release*  .

8. Choose *Addit. Information*  .
9. Enter the following data*:*

Field name	Description	User action and values	Note
Description		Check all spark detection and elimination systems on all other baghouse for correct installation.	Long text can be added when the user, choose the *Long text* icon.
Protection goal	Install best technology	CUST-100000000000005	
Planned start		Current date + 1 day	
Planned end		Current date + 3 day	
Person response	Employee	0000000002	
Administrator	Employee	0000000008	
Resp. for check	Employee	0000000006	

10. Choose *Save*.
11. Double click the safety measure entry and enter *10000* in the *Cost* field.
12. In the *currency* field, choose *AUD.*
13. Choose *Create Notific*  .
14. Enter a description: *Spark detection and elimination.*
15. Choose *2* as priority in the *priority* field.
16. Choose *Save*. (The notification created successfully and displayed number in left bottom corner)

.

To complete the process it is necessary to finish the PM notification in SAP PM. *Logistics → Plant Maintenance → Maintenance processing → Notifications → Change PM Notification → Search Notification type OS"→ select your notification (description) in the hit list* (The notification ID of your new created notification should already appear in the ID field).Run transaction S_SH8_84000008 - Return Completed Tasks and Notify.

After the Incident Investigation is completed and all safety measures have the status *completed*, then the Incident can be closed. It is necessary to ensure that a Work Area has been entered, since this is prerequisite for linking the Incident to a Risk Assessment if required.

17. Choose *Incident/Accident Log Data*  to return to the incident/accident log.
18. From menu path, choose *Incident/Accident Log → Status Switch → Request release.*

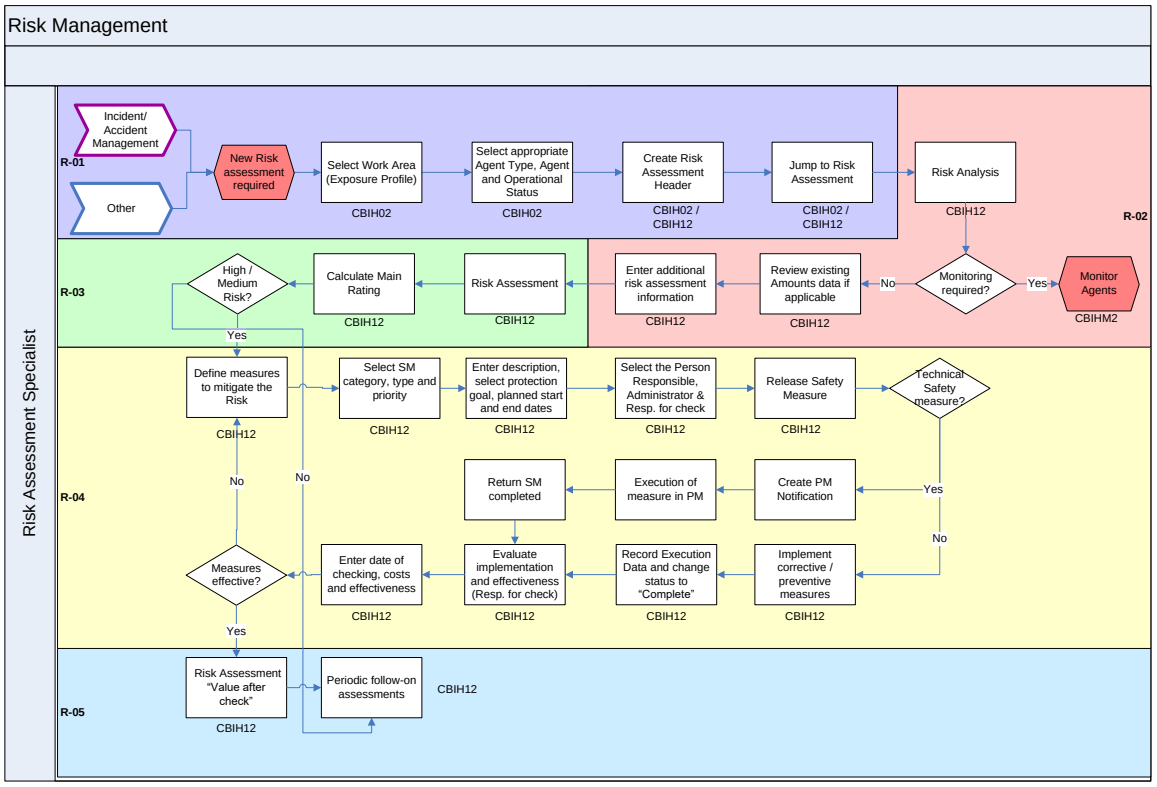
19. From menu path click *Incident/Accident Log* →*Status Switch* → *Switch to next status* twice to change the status of the log to *Close.*

20. Choose *Save*.

Result

Plant notification (integration with safety measures) has been created.

2.2 Risk Management



Following the previous scenario where there has been a dust fall-out, which could have affected the health and safety of people, it is necessary to do a risk assessment on this scenario. The purpose is to identify the risk that it holds and what mitigation (safety) measures must be in place to reduce the risk to an acceptable level.

2.2.1 Creating Risk Assessments in the Exposure Profile

Use

You use this function to document which agents occur in a work area and to make an estimated rating of the exposure situation for each agent, dependent on the operation status of the work area.

If you conduct regular risk assessments, you can make a significant contribution to protecting your employees from accidents at the workplace and work-related health hazards, thus actively following a preventive industrial health and safety policy.

In addition, there are country-specific laws and regulations that require you to perform and document risk assessments, for example, OSHA in the USA. By using SAP EH&S *risk assessment*; you are in a position to fulfil these legal requirements.

Risk Assessments are unique based on the Work Area / Agent Type / Agent and Operational Status combination.

Risks can be created from the Exposure Profile (recommended) or alternatively in CBIH12.

To guarantee that the ratings in the *exposure profile* and the *risk assessment* remain consistent, you can run a data match up. This compares the rating you entered in the *exposure profile* and matches it up to the *value assignment after check* or the *main rating* of the related risk assessment. You can also request the data, which match up the context of a risk assessment.

Procedure

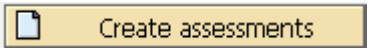
1. Access the activity using one of the following navigation options:

Transaction Code	**CBIH02**
SAP Menu	*Logistics → Environment, Health and Safety → Industrial Hygiene and Safety → Work areas → CBIH02 - Edit Work Areas*

2. Enter the following data and choose *Enter:*

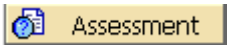
Field name	**Description**	**User action and values**	**Note**
Work area type		MINE1_MAGMA	Or use other Work area for testing
Plant	Mine 1	«Plant_BPM1»	

3. On the *Edit work area: Hit list* screen, double click the work area selected by the previous step.
4. Choose *Exposure Profile* or *F7.*
5. If the Agent has already been assigned, jump to step 8. In the *Agent type* field, choose *Y_EXPO_RES* from the list.
6. In the *Agent* field, choose *Respirable Silica.*
7. Choose *Emergency* operation status from list in *Operation Status* field.

8. Choose *Create Assessment* 

to create the Assessment.

9. Choose *Save*.

10. Choose *Assessment* 

to go to the *Assessment Hit list* screen.

Result

Risk assessment has been created from the exposure profile of the work area.

2.2.2 Analyzing Risk

Use

The purpose of this activity is to analyze risk prior to evaluation by recording applicable information. If monitoring is required, it can be conducted in Measurement Management and the Amounts can be transferred to the applicable Risk Assessment. As possible additional information should be recorded to ensure that the correct level of risk is determined. The company would use the internal Risk matrix. which is a standardized method of determining all health and safety risk within an organization. Determining the level is important for reporting of risk in a company and establishing a risk profile.

The lifespan of a risk assessment could be years and through this lifespan the company must strive to decrease the risk to it's the lowest level possible. This is done by evaluating the risk assessment once every year/two years to ensure that risk is managed properly.

If an agent should be monitored /measured, it can be monitored in Measurement

When the project is released, the measurement amounts are transferred to the applicable Risk Assessments.

Additional information can be added in fields provided in the Risk Assessment (for example the Environmental Aspect and Impact). User-exits are available to record any additional information, for example: to link risks to applicable legislation.

Procedure

1. Access the activity using one of the following navigation options:

Transaction Code	**CBIH12**
SAP Menu	*Logistics → Environment, Health and Safety → Industrial Hygiene and Safety → Agents → CBIH12 - Edit Risk Assessments*

2. Choose *Enter.*

3. On the *Edit risk assessment: Hit list* screen, choose the checkbox of the risk assessment created in the previous step.

4. Choose *Assessment* or *F7.*

5. Enter the following data*:*

Field name	Description	User action and values	Note
Note		Dust-fallout (eastern baghouse) - residential area affected	
Result field			
Date of check		Current Date + 5 days	
Person group		A	
Person respons.		00000006	
Next risk assessment		Current Date + 1 year	

Now that you have all the additional information you can determine the risk rating.

6. Maintain 200 in Operation Status field.
7. Select *Medium* from the list in the *Severity* field and *Low* from the list in the *Probability* field. In *MER* field, maintain *C*.
8. Choose *Accident* from the list in the *Reason* field.(For example 002 in this scenario)
9. Choose *Main rating* 

to calculate the main rating.
10. Choose *Measures*  .
11. Choose *Display* → *Edit.*

If the screen is already in *edit* mode, ignore this step.

12. Choose *Organization* tab, and enter the following data*:*

Field name	Description	User action and values	Note
Safety Meas. Type	Corrective Action	YC	
Priority	High	YH	

13. Choose *Enter.*
14. Double click the line, which created by last step.
15. Choose *Release*  .
16. Enter the following data*:*

Field name	Description	User action and values	Note
Description			

Field name	Description	User action and values	Note
Protection goal	Prevention of pollution	CUST-100000000000000	
Planned start		Current date + 1 day	
Planned end		Current date + 3 day	
Person respons.		0000000002	
Administrator		0000000008	
Resp. for check		0000000006	
Pers. grp		A	All Pers. Grp inputs A

17. Choose *Save.*

Result

Risk evaluation has been made. Risk has been evaluated and mitigated measures have been assigned.

2.2.3 Executing Measures and Evaluate Effectiveness

Use

In this activity the safety measures is implemented and the status changed to completed. After completion of the safety measures, the effectiveness of reducing the overall risk must be determined for each safety measure. This is sometimes referred to as the residual risk. In the case of safety measure, which is not effective in reducing the risk there may be various reasons for this.

It may be that the safety measure was not implemented correctly and therefore not functioning correctly or that the wrong safety measure has been identified to be implemented. In each case other action is necessary for example identifying a new safety measure. In this case the process, which stop until the safety measure has been implemented.

Procedure

1. Access the activity using one of the following navigation options:

Transaction Code	CBIH12
SAP Menu	*Logistics → Environment, Health and Safety → Industrial Hygiene and Safety → Agents → CBIH12 - Edit Risk Assessments*

2. Choose *Enter.*
3. On the *Edit risk assessment: Hit list* screen, choose the risk assessment created in the previous step.
4. Choose *Assessment* or *F7.*

5. Choose *Measures* to go to the safety measures.
6. Choose the *Organization* tab page.
7. Double click the safety measure type.
8. Enter the execution date (current date).
9. Choose *complete*  to set the status to *Task Completed.*
10. Choose *Effective* from the list in the effectiveness field. (For example YE)
11. Enter a check date (current date).
12. Choose *Save*.
13. Choose *Exit.*

Result

The safety measure implemented and the status changed to completed.

2.2.4 Assigning Value after Check

Use

The purpose of this activity is to assign a value after check.

After all measures have the status completed, the risk can be rated again by assigning a value after check (that is, after the safety measures have been checked).

Periodic follow-on assessments are necessary.

When you assign a value assignment after check, you formally close a risk assessment. Using the value assignment, you can document how the risk or hazard is to be assessed following a check of the data and an effectiveness check of the safety measures. You can also specify who is responsible for the check and when the check was made. If the check provides a negative result, you can create a follow-on assessment or specify the date of the next risk assessment.

The *Val. Ass. chckd* field is grey out, if all the safety measures are not in the complete status,

Structure

You set the value assignment after check in the *Val. ass. chckd* field on the *Edit Risk Assessment: Assessment* screen. The field is only ready for input if there are no more open safety measures or no safety measures were entered. No open safety measure mean that all safety measures have the status *Task completed* or *Deleted by PM*.

You set the possible value assignments in Customizing for *Industrial Hygiene and Safety* under *Specify Exposure Ratings*.

The system assigns a traffic light icon to each *value assignment after check* to make it clearer. This icon can have the following color settings:

Icon	Color	Meaning
	Red	High risk
	Yellow	Medium risk
	Green	No risk
–	–	Not specified or no value assignment available

You also set which traffic light icons correspond to the different *value assignments after check* in Customizing for *Industrial Hygiene and Safety* under *Specify Exposure Ratings*.

When you search for a risk assessment, you can use the traffic light icon as a search criterion. During the search, both the value assignment after check and the main rating are taken into account.

Procedure

1. Access the activity using one of the following navigation options:

Transaction Code	CBIH12
SAP Menu	*Logistics → Environment, Health and Safety → Industrial Hygiene and Safety → Agents → CBIH12 - Edit Risk Assessments*

2. Choose *Enter.*
3. On the *Edit work area: Hit list* screen, choose the work area selected by the previous step.
4. Choose *Assessment.*
5. In the *Val. ass. Chckd* field, choose the value, for example *2.*
6. Choose *Display Note.*
7. In dialog box, input the following text:

   The dust fallout limitation for a residential area is exceeded during an emergency situation.

8. Choose *Back.*
9. Choose *Save.*
10. Choose *Exposure Profile Match up* or choose *Ctrl+Shift+F4.* The result is *Risk assessment and exposure profile matched up successfully.*
11. Choose *Save.*

After all measures have the status completed, the risk can be rated again by assigning a value after check (that is, after the safety measures have been checked).

Periodic follow-on assessments are necessary. It can be done by choosing *Follow-on Assessmt.*

Result

A value has been assigned after check.

2.2.5 Linking Risk Assessment to Incident Accident Log

Use

In this activity we demonstrate the integration between the risk assessments that has been done for this incident with the Incident/accident log.

Procedure

1. Access the activity using one of the following navigation options:

Transaction Code	**CBIH82**
SAP Menu	*Logistics → Environment, Health and Safety → Industrial Hygiene and Safety → Accidents → CBIH82 - Edit Incident/Accident Log*

2. On the *Incident/Accident Log: Initial Screen*, enter the following search information:

Field name	**Description**	**User action and values**	**Note**
Entry type	Health and Safety	YHS	Use the same Entry type as was selected in the previous step/s
Event date (from)		Current date	
Plant	Mine1	BPM1	

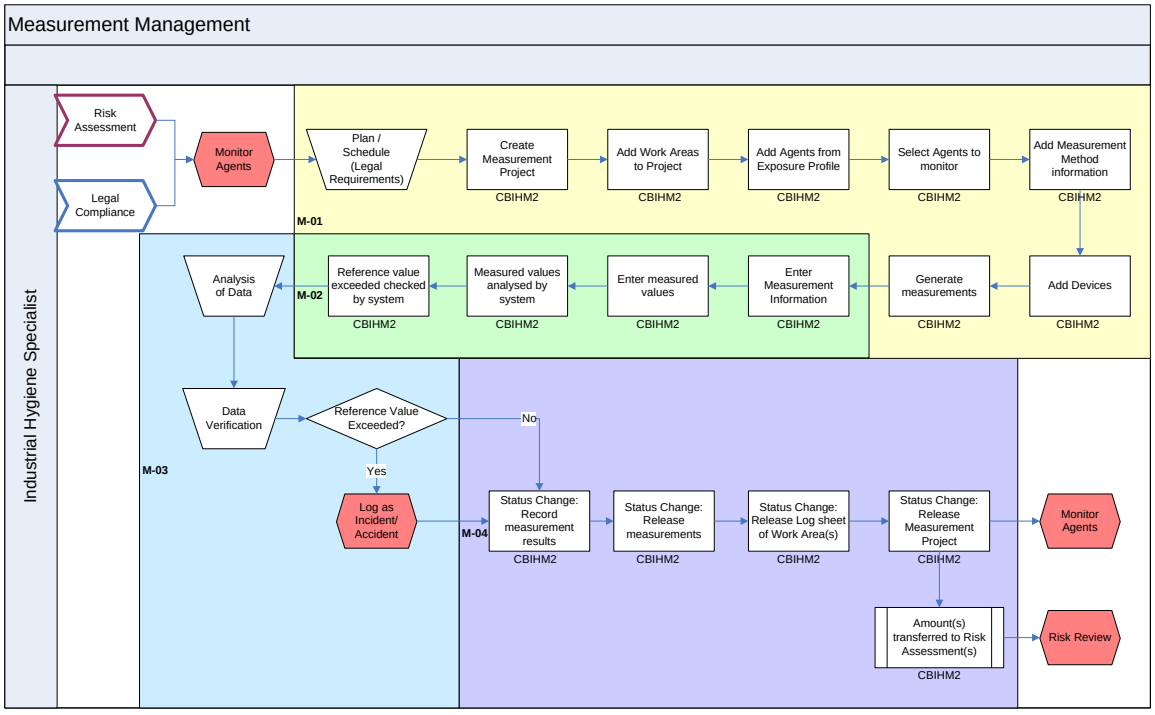
3. Choose *Hit list*.

4. On the *Edit Incident/Accident Log: Hit List (# Hits)* screen, select the incident/accident log that was created in previous step.
5. Choose *Incident/Accident Log Data* to view header information.
6. In the Menu, choose *Environment* → *Assign to Risk Assessment.*
7. On the *Edit Work area: Data Integration* screen, choose the *Assign Incidents* tab page.
8. Check that the *Agent* entry has been selected with the radio button
9. Check that the incident has been selected in the *Incident* field.
10. Choose *Attach* to assign the incident that is being shown in the *Incident* field.
11. Choose *Save*.
12. Choose *Exit*.

Result

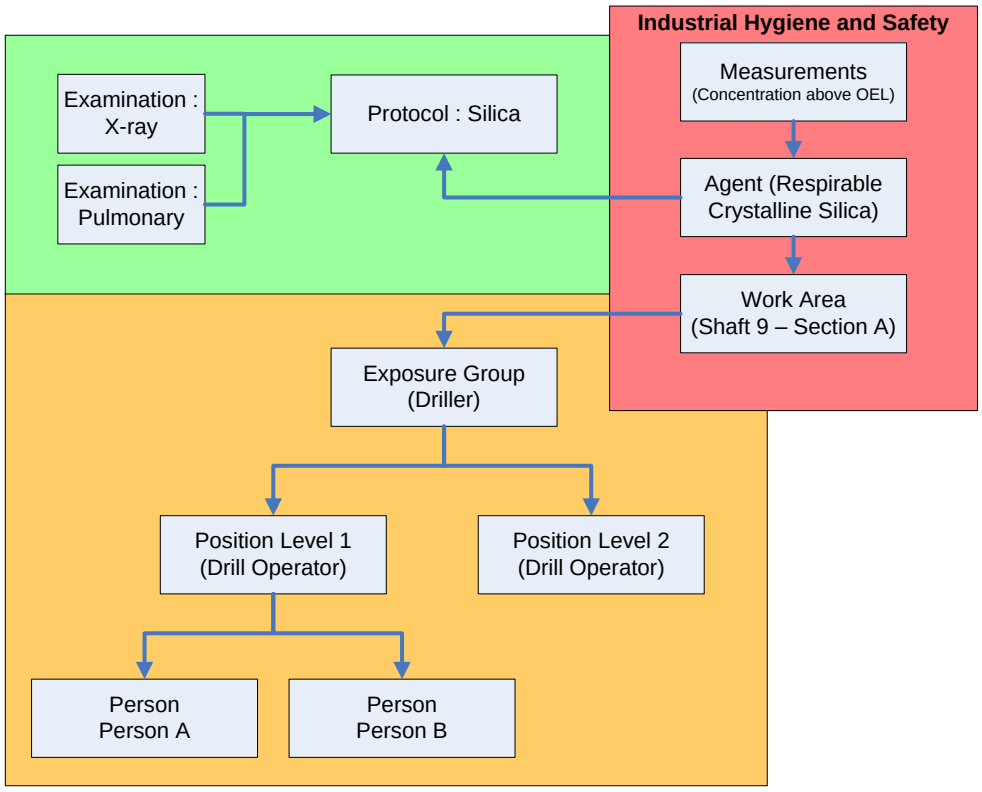
Incident has been assigned to the Risk Assessment

2.3 Measurement Management



In this scenario, which demonstrating the integration between Human Resources, Occupational Health and Industrial hygiene and safety.

The functionality is described in the following diagram:



Graphic A: Proposal based on silica exposure

2.3.1 Creating Measurement

Use

The purpose of this activity is to create measurements based on legal or company - specific requirements.

Measurement projects are planned based on legal or company - specific requirements.

Measurement Projects are created (scheduled) with all additional information such as agents, measurement methods and devices.

Measurements are generated to complete planning.

Procedure

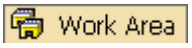
1. Access the activity using one of the following navigation options:

Transaction Code	**CBIHM2**
SAP Menu	*Logistics → Environment, Health and Safety → Hazardous*

	Substance Management → Agents → Edit Measurement Projects Incident/Accident Log

2. Choose *Create* or choose *Shift+F6.*
3. Enter the following data*:*

Field name	Description	User action and values	Note
Meas. Project		Y00001	
Meas.Proj.Type	Exposure Measurement	EXP	
Site	Orion	MINE1_ORION	
Cost Center		5000	
Controlling area		«CtrllingArea_BP01»	
Person Respons.		A 0000000001	

4. Choose *Save.*
5. Choose *Work Area* 

6. In dialog box, clear the field on Hghr-lvl work and choose *Enter.*
7. Choose the work area named *MINE1_SML,* and then choose *Enter.*
8. Choose the work area in the left tree.
9. On the right screen, maintain the following values and choose *Enter:*

Field name	Description	User action and values	Note
Meas.		X	
Agent.Type	Biological hazard	Y_EXPO_RES	
Agent	Silica	For example 3	
Meas. Method	Dust Sampling	Y01	
Det.	Direct	DIR	

10. Choose *Measurement Method* tab. (Ignore the warning message by *Enter*)
11. On the right screen, maintain the following values and choose *Enter:*

Field name	Description	User action and values	Note
Day		1	
Sample Loc.		Underground section	

12. Choose *Save.*
13. Choose the Meas. Projects. Name on the left screen, for example *Y00001.*
14. Choose *Add Device List* or choose *Ctrl+F3.*

15. Choose *Device List* on the left tree.
16. On the right screen, maintain the following values.

Field name	Description	User action and values	Note
Device Type		Y01	If no devices are displayed de-select the indicator “Only display device types of assigned measurement methods in input help
No. Issued		1	

17. Choose the *Meas. Projects.* Name on the left screen, for example *Y00001.*
18. Choose *Save.*
19. Choose *Generate Measurement* or choose *Ctrl+F4.*
20. Note the new generated measurement number. _____
21. In Sampling Type field, input *STA.(Ignore any warning message with enter)*
22. Choose *Save.*
23. Choose *Back.*

Result

Measurements have been created based on legal or company - specific requirements.

2.3.2 Conducting and Recording Measurement Data in the System

Use

The purpose of this activity is to conduct and record measurement data in the system.

Measurements are conducted and the results are recorded in the system.

The system automatically compares measured values to reference values stored in the specification database, and highlights over-exposures.

Procedure

1. Access the activity using one of the following navigation options:

Transaction Code	CBIHM2

SAP Menu	*Logistics → Environment, Health and Safety → Hazardous Substance Management → Agents → Edit Measurement Projects Incident/Accident Log*

2. In the *Meas. Project* field, input the project name created by the previous step, for example *Y00001.*

3. On the left tree, select the new generated measurement.

4. For the new generated screen on the right, maintain the following values.

Field name	Description	User action and values	Note
Sampling Type	Fixed-Location Measurement	STA	
Status	Normal	100	
Sampling Date		Current Date	

5. Choose *Measured Values* tab. (Ignore the warning message by *Enter*)

6. Maintain the following values:

Field name	Description	User action and values	Note
Amount Category	Mass Concentration	MCO	
Meas. Val. Cat	Long-Term Average	LTA	
Measured Value		0.3	Second field Or 0,3 depends on the user setting
Measured Value		mg/m3	Third field

7. To compare measured values against default values maintained within the specification data base for the specific agent select radio button Ref Val.

8. Choose *Save.*

9. For the menu path, choose *Measurement Project → Status Switch → Measurement → Measurement Results Recorded* or choose *Ctrl+Shift+F5.*

10. From the menu path, choose *Measurement Project → Status Switch → Measurement → Release* or choose *Ctrl+Shift+F6.*

11. Select the work area (For example *MINE1_SML*) on the left.

12. Choose the *close* tab and choose 

.

13. Select the meas. Project on the left.

14. From the menu path, choose *Measurement Project → Status Switch → Measurement Projects → Release.*

15. Choose *Save.*

If the measurement project is released, the system automatically transfers the measurement results (Amounts) to the Amounts screen(s) of the applicable Risk Assessments. This enables accurate risk evaluation.

Result

Measurement data has been conducted and the results have been recorded in the system.

Now that the monitoring has been done it has been established that the reference value for Silica has been exceeded. It is therefore necessary to do medical surveillance on all possible employees that has been exposed to this. These employees are identified via the organizational structure of the company.

Here is the evaluation path that has been set-up for the work area, which demonstrates the integration into Organizational Management.

When a protocol proposal is done, the system picks up the employees that are shown in this evaluation path. To do the protocol proposal in the system refer to the Protocol proposal step in Incident/Accident, Risk Assessment BPP.

Silica protocol is proposed for the employees.

Since the amounts have been transferred to a risk assessment, then risk assessment can be conducted in this scenario.